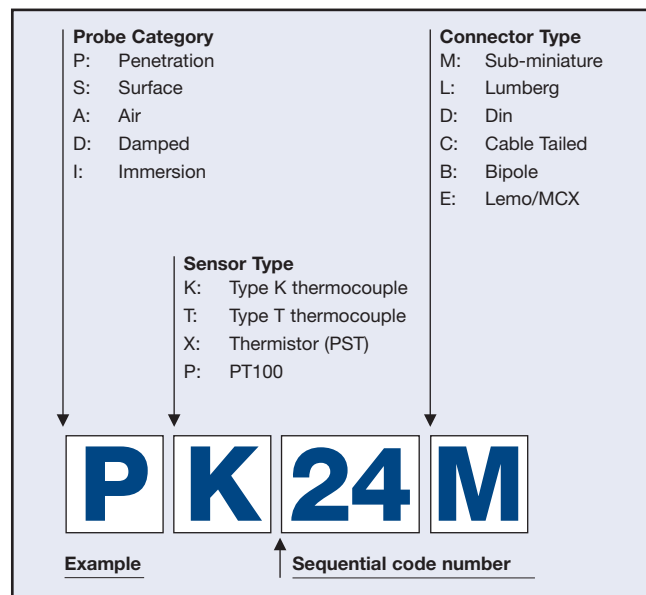


CHOOSING YOUR COMARK PROBES

PROBE IDENTIFICATION CODES

Comark has a simple order code for each probe which identifies the key characteristics.

These are set out in the diagram below.



PROBE CATEGORY

Choose a probe suitable for the material to be measured e.g. a low mass flexible air probe would be a better choice for fast, accurate air temperature measurement than a penetration probe which would take too long to stabilise.

Also the application should be considered:-

Solid and semi-solid materials - use surface probes for surface measurement. Surface probes include angled head models for restricted areas, patch probes for permanent measurement points and velcro or clamp probes for pipes.

Use penetration or immersion probes for internal temperatures. Where holes have to be drilled into solids, use a thermocouple or thermistor probe inserted to a depth 6 times the probe diameter or a PT100 probe inserted to a depth 10 times its diameter.

Use a thermal transfer compound for improved accuracy and response time (the speed at which the probe adjusts from its current temperature to that of the measured materials).

Liquids - use immersion or some penetration probes, but check the possible corrosive effects of the liquid on the sensor first. Agitate the liquid for faster response.

Air and other Gases - check the possible corrosive effects of the gas on the sensor first.

Response times are affected by heat transfer from or into the sensor and the smaller the sensor area of the probe, the faster the response time.

Response is also affected by air/gas movement.

Food simulant and damped sensor probes have a large mass surrounding the sensor to slow down response times, essential in food applications where fridge or freezer doors being opened or defrost cycles can trigger temperature alarms.

SENSOR TYPE

Choose a sensor best suited to your needs for measurement range, accuracy and response time. Some accuracy levels are set by legislation, such as the United Kingdom Food Safety Act, or by local Quality Assurance standards.

The sensor must also match the instrument.

Comark standard probes use three basic sensor types:-

1. Thermocouples - two wires of dissimilar metals joined together at the measurement tip (the hot junction) and joined at the other end to the input terminals of the instrument (the cold junction).

Comark thermocouple material is monitored to exceed the international standards (BS4937:1983, BS EN60584-2:1993 and other related standards). Two main thermocouple types are used:-

Type K Thermocouple - Ni-Cr/Ni-AL - a general purpose thermocouple with a wide measurement range and a fast response to temperature changes.

Type T thermocouple - Cu/Cu-Ni - particularly suited to low and sub-zero temperatures such as those found in autoclaves and health applications.

Also has a fast response to temperature changes and high accuracy, useful for food applications.

2. Thermistor (PST) - used for precision measurements using a semi-conductor sensor.

Provides high accuracy over a narrow temperature range and good performance over long lead runs. Suitable for food and cold store applications.

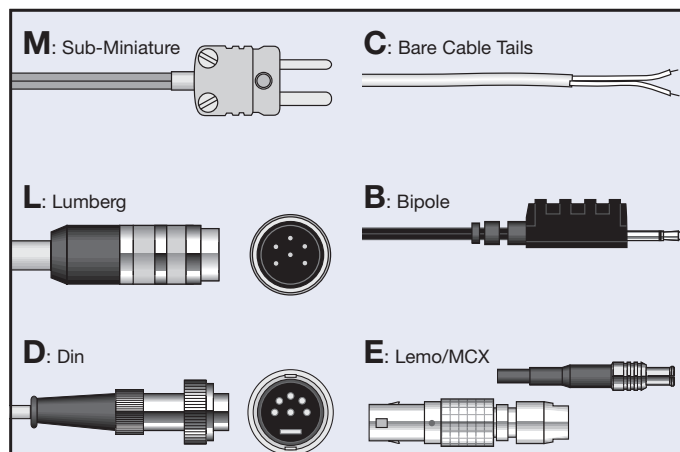
3. Platinum Resistance Thermometers - the electrical resistance of these sensors changes with temperature and this is measured to give the most accurate temperature measurements.

Comark uses PT100 sensors with a resistance of 100 ohms at 0°C which meet the tolerances set out in BS EN60751 (1996), Class A.

PROBE CONNECTOR TYPES

Choose a probe to match the connector type of the instrument. A range of adaptors is available for use where a non matching probe has to be specified.

Connector details for all Comark and Kane-May instruments and adaptors are given in the compatibility charts.



OTHER ESSENTIALS FOR PROBE SELECTION

Check that the probe measurement range matches your instrument specification and your application.

Check that the probe tip design is suitable for your application e.g. do not use an air probe with an exposed sensor to measure internal temperatures of solids. The main tip designs are shown opposite and the numbers are listed in the probe selection charts:-

Check the probe lead material. Comark temperature probe leads are matched to the intended applications for the probe. Materials used are:-

PVC - PVC coiled leads provide ease of use in ambient temperatures of up to 70°C and are specified for standard and heavy duty industrial probes.

FEP and PTFE - These leads are especially suited to food probes and can be used in sub-zero temperatures. Steel braided PTFE leads give greater strength.

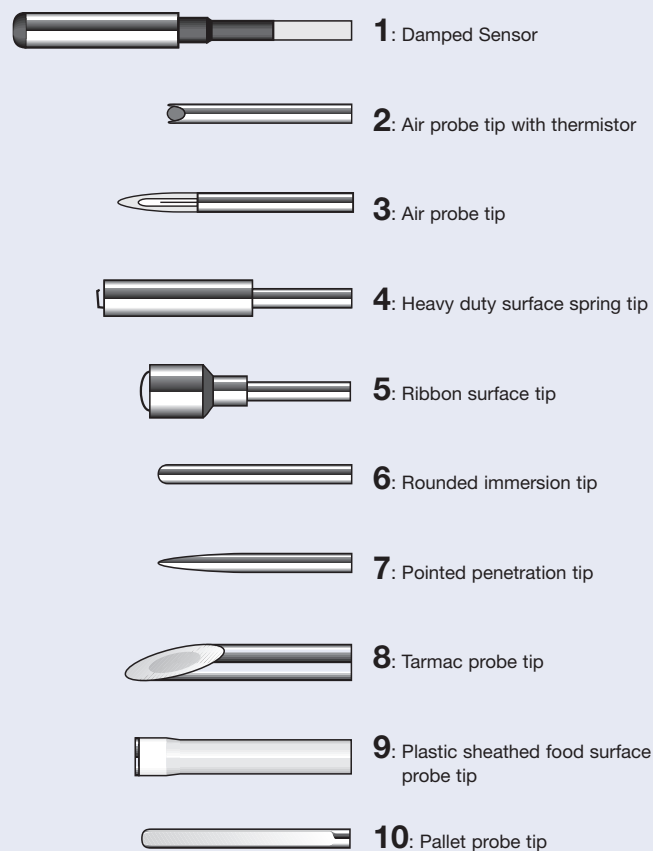
Fibre Glass (FG) - Fibre glass insulated leads are used for special application probes where the lead could be subjected to very high ambient temperatures of up to 600°C.

Check Intrinsic Safety requirements - some applications and industries are covered by the Intrinsic Safety Regulations including fuel refining, chemical production and mining.

Most Comark probes can be used with Intrinsically Safe instruments, but those not suitable are marked * in the probe selection charts.

Always check for Intrinsic Safety requirements before selecting probes.

PROBE TIPS



PROBE ACCESSORIES

Description	Sensor type	Code
Sub miniature thermocouple socket (in pack of 5)	Type K	B25
Sub miniature thermocouple plug (in pack of 5)	Type K	B26
Standard thermocouple plug	Type K	CSPK
Standard thermocouple socket	Type K	CSSK
Standard socket for panel mounting	Type K	CSSK/P
Type B thermocouple sub-miniature plug for micro-volt input on M8600/K module	Type B	CMPC
Lumberg plug	-	4187
3-way screwblock connector for M8600/X module	-	16720
50m reel of PVC probe extension lead	Type K	B27
2m extension lead with sub-miniature connectors	Type K	EK21M
10m extension lead with sub-miniature connectors	Type K	EK22M
20m extension lead with sub-miniature connectors	Thermistor (PST)	EX21M
40m extension lead with sub-miniature connectors	Thermistor (PST)	EX22M
60m extension lead with sub-miniature connectors	Thermistor (PST)	EX23M
80m extension lead with sub-miniature connectors	Thermistor (PST)	EX24M
10 way switch box with 350mm lead to enable up to 10 probes to be measured by a single thermometer, see page 8	Type K	LK22M
1m coiled connecting lead for PT29L corkscrew probe, see page 5	Type T	ADP34
1m coiled connecting lead for PT29M corkscrew probe, see page 5	Type T	ADP35
1.5mm stainless steel olive gland adaptor*	-	B22
3mm stainless steel olive gland adaptor*	-	B23
6mm stainless steel olive gland adaptor*	-	B24
Thermal transfer compound	-	CSG12
Pack of 10 Tempatch indicators. Available in ranges: 37 to 65°C	-	CTMP/A
71 to 110°C	-	CTMP/B
116 to 154°C	-	CTMP/C
160 to 199°C	-	CTMP/D
204 to 260°C	-	CTMP/E
Cable ties in pack of 50	-	T50

SPECIAL ORDER PROBE EXTENSION LEADS

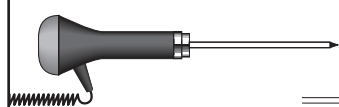
Most Comark thermocouple probes can be manufactured to special order with leads in non-standard lengths. Full details can be provided by Comark Customer Support or your local distributor.

*Olive gland adaptors are used as compression sealing joints for probes used in measuring internal temperatures in pipes.

PROBE SELECTION CHART

Penetration Probes

All drawing dimensions shown in mm.



Standard and heavy duty industrial probes.

Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
K	M	-50°C to +250°C	2.0	100	3.3	1.0	PVC	7	PK24M
K	M	-50°C to +250°C	2.0	300	3.3	1.0	PVC	7	PK29M
K	M	-50°C to +250°C	4.0	100	6.0	1.0	PVC	7	PK26M
K	M	-50°C to +250°C	4.0	300	6.4/3.3	1.0	PVC	7	PK27M
T	L	-100°C to +250°C	4.0	150	6.4/3.3	1.0	FEP	7	PT28L
PST	L	-40°C to +150°C	10.0	150	6.4/3.3	1.0	FEP	7	PX30L
T	M	-100°C to +250°C	2.0	100	3.3	1.0	PVC	7	PT22M
PT100	L	-200°C to +250°C	8.0	100	3.3	1.0	PVC	7	*PP23L



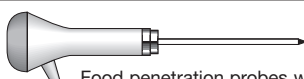
Short Stem Probe for very fast response.

T	M	-100°C to +250°C	0.5	50	1.6	1.0	PVC	7	PT21M
K	M	-50°C to +250°C	0.5	50	1.6	1.0	PVC	7	PK21M



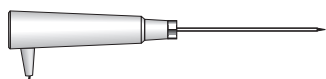
Binder probe for use with "Binder" test plugs for internal measurements in pipes and ducting.

K	M	-50°C to +250°C	1.5	100	2.5	1.0	PVC	7	PK31M
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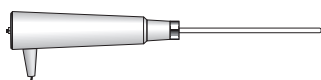
Food penetration probes with coloured end caps for use with cross contamination prevention colour coding systems. PX22L White, PX23L Red, PX24L Green, PX25L Blue. PT24L - Type T sensor food probe with steel braided lead. PT24L/C - Version of PT24L with coiled lead. PX29M - Thermistor probe for use with C8800 monitoring systems.

PST	L	-40°C to +150°C	5.0	100	3.3	0.7	FEP	7	*PX22L
PST	L	-40°C to +150°C	5.0	100	3.3	0.7	FEP	7	*PX23L
PST	L	-40°C to +150°C	5.0	100	3.3	0.7	FEP	7	*PX24L
PST	L	-40°C to +150°C	5.0	100	3.3	0.7	FEP	7	*PX25L
T	L	-100°C to +250°C	2.0	100	3.3	0.7	PTFE	7	*PT24L
T	L	-100°C to +250°C	2.0	100	3.3	1.0	PVC	7	*PT24L/C
PST	M	-40°C to +70°C	5.0	100	3.3	3.0	FEP	7	*PX29M



PX16L - Fast response thermistor food probe. PT23L - Fast response Type T food probe with steel braided lead.

PST	L	-40°C to +150°C	0.5	100	1.6	0.7	FEP	7	*PX16L
T	L	-100°C to +250°C	0.5	100	1.6	0.7	PTFE	7	*PT23L



Probe with print start switch for KM1223DTR.

PST	L	-40°C to +150°C	5.0	100	3.3	3.0	FEP	7	*PX27L
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Oven meat probe for checking meat and food temperatures during cooking.

K	M	-50°C to +250°C	2.0	100	3.3	2.5	PTFE	7	PK23M
T	L	-100°C to +250°C	2.0	100	3.3	2.5	PTFE	7	PT26L



Integral plug probe.

T	L	-100°C to +250°C	2.0	100	2.4	-	-	7	*PT25L
PST	L	-40°C to +150°C	5.0	100	3.3	-	-	7	*PX33L



Corkscrew probe for frozen foods and other semi-solid materials. Complete with detachable lead for ease of use, ADP34 lead for PT29L, ADP35 lead for PT29M. See page 4.

T	L	-100°C to +250°C	4.0	140	8.0	1.0	PVC	-	PT29L
T	M	-100°C to +250°C	4.0	140	8.0	1.0	PVC	-	PT29M

Probe for use with C1742, C1744, C1752, C1754 loggers only.

PST	E	-40°C to +100°C	5.0	-	-	1.0	PVC	-	*PX31E
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KM220/KM221 probe.

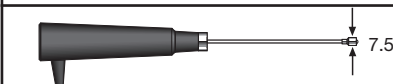
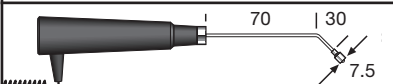
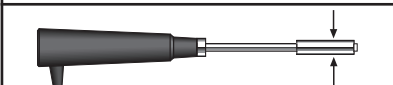
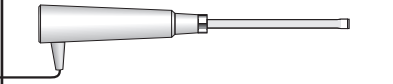
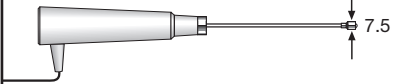
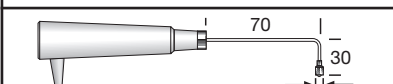
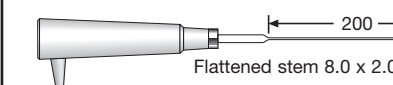
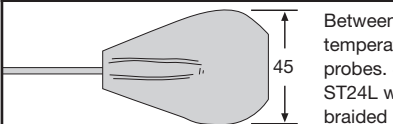
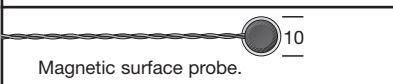
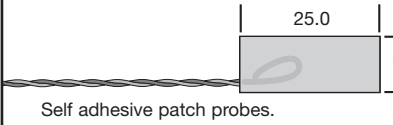
PST	B	-40°C to +150°C	5.0	80	3.3	0.4	PVC	7	*PX21B
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†The time constant is the time taken for the probe to reach 63% of the value of the temperature change. Multiply x 3 for the time taken to achieve 95% and by 5 for 99%. Thermocouples:- Tolerances relate to BS EN60584-2 (1993), Class A. *Not suitable for Intrinsically Safe applications.

PROBE SELECTION CHART

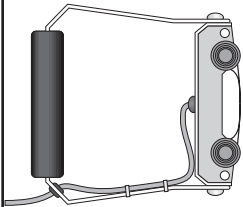
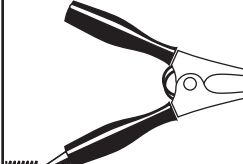
Surface Probes

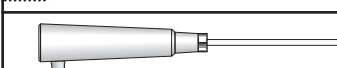
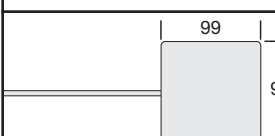
All drawing dimensions shown in mm.

	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
 General purpose probe.	K	M	-50°C to +250°C	0.2	100	7.5	1.0	PVC	5	SK21M
 General purpose probe.	K	M	-50°C to +250°C	0.2	70/30	7.5	1.0	PVC	5	SK22M
 General purpose probe.	K	M	-50°C to +250°C	0.2	70/30	7.5	1.0	PVC	5	SK23M
 Heavy duty probe.	K	M	-50°C to +650°C	0.4	100	10.0	1.0	PVC	4	SK24M
 Heavy duty probe.	K	M	-50°C to +650°C	0.4	150/36	10.0	1.0	PVC	4	SK25M
 Surface probe for food applications.	PST	L	-40°C to +150°C	12.0	100	6.0	0.7	FEP	9	*SX22L
 Ribbon type surface probe with steel braided leads for food applications.	T	L	-100°C to +250°C	0.2	100	7.5	0.7	PTFE	5	*ST21L
 Ribbon type surface probe with steel braided leads for food applications.	T	L	-100°C to +250°C	0.2	70/30	7.5	0.7	PTFE	5	*ST22L
 Heavy duty pallet probes.	K	M	-50°C to +250°C	4.0	250	8 x 2	1.0	PVC	-	SK38M
	T	M	-100°C to +250°C	4.0	250	8 x 2	1.0	PVC	-	ST38M
	T	L	-100°C to +250°C	4.0	250	8 x 2	1.0	PVC	-	ST38L
 Between pack temperature probes. ST23L and ST24L with steel braided leads.	T	L	-40°C to +70°C	5.0	-	-	1.0	PTFE	-	*ST23L
	PST	L	-40°C to +70°C	15.0	-	-	1.0	FEP	-	*SX23L
	T	L	-40°C to +70°C	5.0	-	-	3.0	PTFE	-	*ST24L
	PST	L	-40°C to +70°C	15.0	-	-	3.0	FEP	-	*SX24L
 Magnetic surface probe.	K	M	-50°C to +150°C	2.0	-	-	2.0	PTFE	-	*SK27M
 Patch probe.	K	M	-50°C to +250°C	0.5	-	-	1.0	PTFE	-	SK32M
 Self adhesive patch probes.	K	M	-50°C to +250°C	0.5	-	-	1.0	PTFE	-	SK31M
	T	M	-50°C to +250°C	0.5	-	-	1.0	PTFE	-	ST21M

†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%. Thermocouples:- Tolerances relate to BS EN60584-2 (1993), Class A. *Not suitable for Intrinsically Safe applications.

PROBE SELECTION CHART

Surface Probes	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
 Roller probe for stationary or moving surfaces including cylinders and flat surfaces. Measures at up to 600m/min surface speed and from 125mm diameter curved to flat surfaces.	K	M	-50°C to +250°C	2.0	148	-	2.0	PVC	-	*SK28M
 Pipe probe for heating, ventilating and air conditioning applications with 500mm Velcro strap.	K	M	-50°C to +100°C	10.0	-	-	2.5	PVC	-	*SK29M
 Pipe clamp probe for use in heating, ventilating and air conditioning applications, for pipes 15 to 38mm diameter.	K	M	-50°C to +100°C	5.0	-	-	1.0	PVC	-	*SK35M
 KM220/KM221 probe.	PST	B	-40°C to +150°C	12.0	80	7.5	0.4	PVC	-	*SX21B

Air Probes	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
 General purpose air probes. AT21M with steel braided lead.	K	M	-100°C to +850°C	0.5	100	3.3	1.0	PVC	3	AK21M
	K	M	-100°C to +850°C	0.5	300	3.3	1.0	PVC	3	AK22M
	K	M	-100°C to +250°C	0.4	100	3.3	1.0	PVC	3	AK27M
	T	M	-50°C to +250°C	0.4	100	3.3	1.0	PTFE	3	AT21M
	K	M	-100°C to +850°C	1.0	300	6.0/3.0	1.0	PVC	-	AK23M
 Semi flexible high temperature air probes.	K	M	-100°C to +1100°C	3.0	700	6.0	1.0	PVC	6	AK24M
	K	M	-100°C to +1100°C	3.0	1000	6.0	1.0	PVC	6	AK25M
 Rigid air probe.	PST	L	-40°C to +70°C	10.0	100	3.3	0.7	FEP	2	*AX23L
 Flexible thermocouples.	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	-	AT26M
	T	M	-100°C to +400°C	2.0	-	-	1.0	FG	-	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 +250°C	0.5	-	-	25.0	PTFE	-	AK32M
	K	M	-100°C to +400°C	0.5	-	-	1.0	FG	-	AK33M
	T	L	-100°C to +250°C	0.4	-	-	1.0	PTFE	-	AT26L
 Fast response flexible probe with steel braided lead.	T	L	-100°C to +250°C	2.0	-	-	1.0	PTFE	-	*AT22L
 Flexible probes.	PST	L	-40°C to +70°C	10	-	-	1.0	FEP	-	*AX24L
	PST	L	-40°C to +70°C	10	-	-	3.0	FEP	-	*AX25L
	PST	M	-40°C to +70°C	10	-	-	5.0	FEP	-	*AX28M
	PST	M	-40°C to +70°C	10	-	-	10.0	FEP	-	*AX29M
	PST	B	-40°C to +70°C	10	-	-	1.0	FEP	-	*AX22B
 Food simulant probes for long term measurements of food in fridges and freezers.	PST	M	-40°C to +70°C	100	-	-	2.0	FEP	-	*DX29M
	PST	L	-40°C to +70°C	100	-	-	2.0	FEP	-	*DX31L
	PST	M	-40°C to +70°C	100	-	-	5.0	FEP	-	*DX32M
	PST	M	-40°C to +70°C	100	-	-	10.0	FEP	-	*DX33M

†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%. Thermocouples:- Tolerances relate to BS EN60584-2 (1993), Class A. *Not suitable for Intrinsically Safe applications.

PROBE SELECTION CHART

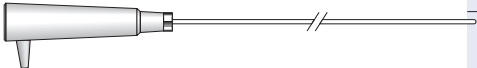
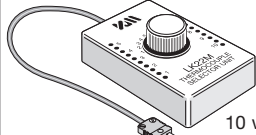
Air Probes

All drawing dimensions shown in mm.

	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
 Damped sensor probes to slow down response times in applications where air temperatures change faster than the product temperatures, eg. food in fridges and freezers.	PST	L	-40°C to +70°C	30.0	-	8.0	2.0	FEP	1	*DX28L
	PST	M	-40°C to +70°C	30.0	-	8.0	2.0	FEP	1	*DX43M
	PST	M	-40°C to +70°C	30.0	-	8.0	5.0	FEP	1	*DX34M
	PST	M	-40°C to +70°C	30.0	-	8.0	10.0	FEP	1	*DX35M
	PST	M	-40°C to +70°C	30.0	-	8.0	20.0	FEP	1	*DX36M
	PST	M	-40°C to +70°C	30.0	-	8.0	30.0	FEP	1	*DX37M
	PST	M	-40°C to +70°C	30.0	-	8.0	40.0	FEP	1	*DX38M
	PST	M	-40°C to +70°C	30.0	-	8.0	60.0	FEP	1	*DX39M
	PST	M	-40°C to +70°C	30.0	-	8.0	80.0	FEP	1	*DX41M
	PST	M	-40°C to +70°C	30.0	-	8.0	100.0	FEP	1	*DX42M
	PST	C	-40°C to +70°C	30.0	-	8.0	10.0	FEP	1	*DX44C
	PST	C	-40°C to +70°C	30.0	-	8.0	15.0	FEP	1	*DX45C
 Air probe for use with C1742, C1744, C1752, C1754 loggers only.	PST	E	-40°C to +70°C	10.0	-	-	2	PVC	-	*AX31E
 Integral plug probe.	T	L	-100°C to +250°C	0.4	75	3.3	-	-	3	*AT25L
 KM220/KM221 probe.	PST	B	-40°C to +70°C	10	75	3.3	0.4	PVC	2	AX21B
 Probes for C1702 and C1704 loggers. DX52E for C1712 logger only.	PST	E	-40°C to +40°C	10.0	-	-	1.0	PVC	-	*DX46E
	PST	E	-40°C to +40°C	10.0	-	-	3.0	PVC	-	*DX47E
	PST	E	-40°C to +40°C	10.0	-	-	6.0	PVC	-	*DX48E
	PST	E	-40°C to +40°C	10.0	-	-	16.0	PVC	-	*DX51E
	PST	E	-20°C to +100°C	10.0	-	-	3.0	PTFE	-	*DX52E

Immersion Probes

All drawing dimensions shown in mm.

	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
 Probes with type K and T thermocouple sensors also have mineral insulated, semi-flexible stems.	K	M	-100°C to +850°C	0.4	100	1.5	1.0	PVC	6	IK21M
	K	M	-100°C to +850°C	0.4	300	1.5	1.0	PVC	6	IK23M
	K	M	-100°C to +1100°C	1.0	300	3.0	1.0	PVC	6	IK24M
	K	M	-100°C to +1100°C	1.0	100	3.0	1.0	PVC	6	IK22M
	T	M	-200°C to +400°C	1.0	300	3.0	1.0	PVC	6	IT22M
	T	M	-200°C to +400°C	0.4	300	1.5	1.0	PVC	6	IT24M
	PT100	L	-200°C to +500°C	8.0	200	4.0	1.0	PVC	6	*IP22L
	PT100	L	-200°C to +500°C	15.0	300	6.0	1.0	PVC	6	*IP23L
 Heavy duty melt probe.	K	M	-100°C to +1100°C	12.0	1000	12.5/8.0	1.0	PVC	6	*IK25M
 Deep fat probe for food applications.	T	L	-200°C to +400°C	1.0	500	3.0	0.7	PTFE	6	*IT21L
 10 way switchbox, see page 4	K	M	-	-	-	-	0.35	PVC	-	LK22M

†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%. Thermocouples:- Tolerances relate to BS EN60584-2 (1993), Class A. *Not suitable for Intrinsically Safe applications.

INSTRUMENT COMPATIBILITY

Check your instrument connectors before selecting probes.

Instrument	Sensor Type	Connector
 COMARK C550 C1700 Series C1740/C1750 Series C8510 C8600 C8800 C9001/C90061S/C9008 C9003/C9007 C9009 C9011 C9050 C9091 C9092 N9001/N9008 N9003 N9009 N9092 N1001 N1092	Thermistor (PST) Thermistor (PST) Thermistor (PST) Type K or Thermistor (PST) Type K,N,T,J,R,S,E,B, PT100, Thermistor (PST) Thermistor (PST) Type K,N,T,J,R,S Type K Type T PT100 Type K,J,T Thermistor (PST) Thermistor (PST) and Type T Type K, N, T, J, R, S Type K Type T Thermistor (PST) and Type T Type K, N, T, J, R, S, E, B Thermistor (PST) and Type T	C E (DX46E to DX52E only) E (PX31E and AX31E only) M M/L/C C M M M L M L L M M M L M L
KM20REF KM21 KM22 KM25 KM26 KM42/KM43/KM44/KM450S/KM450IS/KM450MQ KM45 KM220/KM221 KM250 KM330/KM340 KM1203 KM1223DTR KM1225 KM1241/KM1441 with T41 module/KM1242/KM1420 KM1250 KM1448 KM4003 KM8004	PT100 Thermistor (PST) Thermistor (PST) and Type T Type T Type T Type K Type K,J,T Thermistor (PST) Type K Type K Thermistor (PST) Thermistor (PST) and Type T Thermistor (PST) Type K Type K or T Thermistor (PST) Type K Type K	Integral Probe L L L M M M B Integral Probe M Integral Probe L M M M M M M

ADAPTOR COMPATIBILITY

Adaptor	Sensor Type	Connections	
		From	To
ADP2 connects food simulant and damped sensor probes with sub-miniature connectors to KM1241/ KM1441	Thermistor (PST)	M	phone
ADP4 connects food simulant and damped sensor probes with sub-miniature connectors to KM20/KM21/KM22	Thermistor (PST)	M	L
ADP5 connects food probes and test caps with Lumberg connectors to KM1225/KM1448/C8510PST	Thermistor (PST)	L	M
ADP7 connects 2 food probes with sub-miniature connectors to KM1441	Thermistor (PST)	M	phone
ADP8 connects food probes and test caps with Lumberg connectors to C9090 and C8500	Thermistor (PST)	L	D
ADP9 connects old food probes with Din connectors to C9091 and C9092	Thermistor (PST)	D	L
ADP10 connects PT100 probes with Lumberg connectors to C9010	PT100	L	D
ADP11 connects old PT100 probes with Din connectors to C9011	PT100	D	L
ADP12 Type T compensating cable, connects C9092 to C9050	Type T	L	M

COMARK SPECIALIST PROBES AND SENSORS

Although the Comark range of handheld probes is the most comprehensive available, there are specialist temperature measurement applications where non-standard probes are needed.

The Comark probe design and production team have many years experience in solving measurement problems for individual customers and can offer expert advice.

The wide range of specialist probe solutions available from Comark includes modified standard probes, special industrial probe assemblies and a bespoke design and build service which is described on the facing page. All Comark manufactured probes utilise the finest components and are produced in line with the Comark ISO 9001 quality system.

SPECIALIST MODIFICATIONS TO STANDARD PROBES

Almost every one of the extensive range of Comark standard probes can be developed or modified to customer requirements. This can be a simple matter of adding a longer lead or a different stem length or it can encompass an application led redesign.

The Comark milk dip probe is a typical example, developed from a type T thermocouple immersion probe to check milk in large tanks during storage or transportation, and now available in three versions. These and other specially developed probes have proved popular enough to warrant volume production and are shown in the chart below.

SPECIALIST INDUSTRIAL PROBES

Comark can supply a broad range of industrial probe assemblies and accessories suitable for permanent installation into all types of process and production machinery. These can be fitted with sensors to specific customer specifications, including thermocouple types K, J, T, R, S, N and E (others available on request), platinum resistance thermometers of all types and thermistors. The range includes:-

General Purpose Thermocouple Sensors for liquid or gas measurement



General Purpose Thermocouple Sensors for low pressure bulkhead fittings



General Purpose Thermocouple Sensors with plug or socket fittings



General Purpose 4 Wire Resistance Thermometer



General Purpose Thermocouple Washer Type

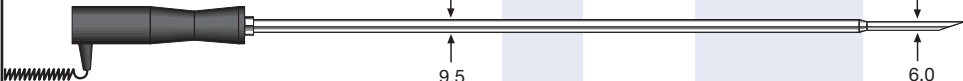
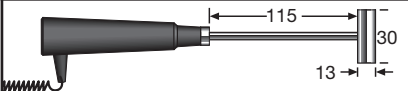


Heavy Duty Thermocouples and Resistance Thermometers



Thermopockets



Modified Standard Probes	Sensor	Connector	Temp Range °C	Response Time (secs)†	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Probe Tip	Code
Heavy duty tarmac probe. 	K	M	-50°C to +250°C	10.0	500	9.5/6.0	2.0	PVC	8	PK32M
Bow surface probe for larger surface contact area. 	K	M	-50°C to +500°C	2.0	250	70	1.0	PVC	-	*SK26M
 Shrouded air probe for use in air currents.	K	M	-30°C to +120°C	0.5	115/30	13	1.0	PVC	-	AK26M
 Weighted sinker probe for deep tanks and containers.	K	M	-100°C to +150°C	2.0	120	-	20.0	PTFE	-	IK26M
 Weighted milk dip probe for dairy hygiene applications, also suitable for other liquid dip applications	T	M	-40°C to +150°C	2.0	90	-	2.0	PTFE	-	IT23M
	T	L	-40°C to +150°C	2.0	90	-	2.0	PTFE	-	IT23L
	PST	L	-40°C to +150°C	5.0	90	-	2.0	FEP	-	IX23L