

HVK1

Heating & Ventilation Kit Dual Input Differential Thermometer, Plug Mounted Probes and Case

MM2020 Thermometer

FEATURES

This instrument is designed for applications requiring either direct or differential measurement. It incorporates many features such as

- *** °C / °F / °A Switchable
- *** I/P 1 , I/P 2 , DIFFERENTIAL, HOLD
- *** True arithmetic differential reading or differential result and input 1
- *** Simultaneous display of both inputs
- *** Resolution of 0.1° to 1000° autoranging
- *** Switchable thermocouple types K / T / J / R / N / E / S
- *** Infra-Red compatibility
- *** Full retention of thermocouple type and temperature scale
- *** User configurable Auto Switch Off capability
- *** Overrange / Open circuit sensor indication
- *** Low battery indication
- *** Supplied complete with shock resistant rubber boot
- *** IP67 casing

The custom display allows input 1 to be shown on a secondary display whilst displaying differential measurement. Input 1 and input 2 may also be displayed simultaneously

SPECIFICATIONS

ENVIRONMENTAL

| | | |
|---------------------------|---|---------------|
| AMBIENT OPERATING RANGE | : | -30 to 50 °C |
| STORAGE TEMPERATURE RANGE | : | -40 to 50 °C |
| HUMIDITY | : | 0 to 70% R.H. |

ELECTRICAL

| | | | |
|--------------------------------|---|-----------------------------------|-----------------|
| MEASUREMENT RANGES | : | K | -200 to 1372 °C |
| | | T | -200 to 400 °C |
| | | J | -200 to 1200 °C |
| | | R | 0 to 1767 °C |
| | | N | -200 to 1200 °C |
| | | E | -200 to 1000 °C |
| | | S | 0 to 1767 °C |
| THERMOCOUPLE TYPES | : | K T J R N E S | |
| INFRA-RED SENSOR (Exergen K80) | : | K80 -50 to 250 °C | |
| ACCURACY @23°C | : | +/- 0.1% OF READING +/- 0.2 °C | |
| CHARACTERISING ACCURACY | : | LESS THAN 0.05 °C | |
| TEMPERATURE COEFFICIENT | : | 0.01% OF READING/°C | |
| COLD JUNCTION COMPENSATION | : | 0.0075 °C/°C | |
| RESOLUTION | : | 0.1° to 1000, 1° ABOVE 1000 | |
| TEMPERATURE SCALES | : | °C / °F / °A | |
| FUNCTIONS | : | I/P1 / I/P2 / DIFFERENTIAL / HOLD | |

GENERAL

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|---------------------------------|---|--------------------------------------|
| BATTERY | : | PP3 9V I.E.C. 6F22 |
| BATTERY LIFE (INTERMITTENT USE) | : | GREATER THAN 200 HOURS (ALKALINE) |
| WEIGHT | : | 155 gms |
| DIMENSIONS | : | 130 X 70 X 33 mm |

Probes

All probes are:

- Type 'K' Thermocouple : Class I ($\pm 1.5^{\circ}\text{C} \pm 0.25\%$)
- Manufactured using a two stage moulding technique. Firstly the probes are encased in tough nylon, then a thermoplastic over moulding is applied. This gives an extremely robust and durable construction.

KPS10 PIPE CLAMP PROBE

This probe uses a pipe clamp to enable the user to easily contact the sensor onto a pipe. The construction ensures good thermal contact with the pipe surface. The clamps are suitable for use with pipes of up to 25mm diameter.

Construction

Pipe Clamp is fitted with a fine wire thermocouple mounted on a rubber support. The probe is fitted with 2M of curly Polyurethane cable, complete with moulded miniature plug.

Polyurethane cables are used in place of the standard PVC for the following reasons:-

- Greater retractability
- Enhanced memory of its curl
- Non-Toxic
- Greater mechanical strength for durability
- 12 X 0.2mm wires used internally for greater strength.
- PTFE inner insulation for strength and retractability.

| | |
|--|-----------------|
| ➤ WIDE AMBIENT TEMPERATURE SPECIFICATION | : -30 TO 50 °C |
| ➤ TIME RESPONSE (<i>96% of value in water</i>) | : 7.0 Secs |
| ➤ MEASUREMENT RANGE | : -50 TO 150 °C |

Please Note: Foam pads may deform if left for prolonged periods on hot pipework.

KHS01 PLUG MOUNTED SURFACE PROBE

The probe is designed for the measurement of surface temperatures giving a fast response time.

NOTE: This probe only requires light pressure to give a true reading and is suitable for smooth, clean surfaces.
If used on an uneven surface, there is a risk that the band will be weakened and deformed.

Construction

Ribbon band sensor with thermocouple sensor attached and draught shield: Stainless Steel 316 (Food Grade) 4mm diameter stem 100mm long.

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|--|------------------|
| ➤ WIDE AMBIENT TEMPERATURE SPECIFICATION | : -30 TO 50 °C |
| ➤ TIME RESPONSE (<i>96% of value on clean metal</i>) | : 0.1 Secs |
| ➤ MEASUREMENT RANGE | : -100 TO 250 °C |

KHM01 PLUG MOUNTED GENERAL PURPOSE PROBE

Construction

3.0mm diameter by 100mm long minerally insulated probe using moulded plug.

- WIDE AMBIENT TEMPERATURE SPECIFICATION : -30 TO 50 °C
- TIME RESPONSE (*96% of value in water*) : 2.0 Secs
- MEASUREMENT RANGE : -100 TO 750 °C

KHA01 PLUG MOUNTED MOVING AIR PROBE

Construction

Air probe with exposed thermocouple sensor protected by a funnelled stainless steel sheath. Insulated in ceramic sheaths. Sensor stem is 4mm diameter and 100mm long, the sensor is approx 5mm from the stem end. Funnel measures 30mm x 13mm diameter.

- WIDE AMBIENT TEMPERATURE SPECIFICATION : -50 TO 50 °C
- TIME RESPONSE (*96% of value in moving gas*) : 0.1 Secs
- MEASUREMENT RANGE : -100 TO 400 °C

Accessories

KH01 HANDLE FOR PLUG MOUNTED PROBES

This handle is used in conjunction with the range of plug mounted probes offered by TME. The socket in the end of the handle allows for the plug mounted probes to be inserted into the handle. This means that a variety of temperature measurements may be performed using the socket in the handle and different plug mounted probes.

Construction

Handle which includes miniature thermocouple socket. Complete with 2M curly polyurethane cable with moulded connector. Complete waterproof assembly.

- TOUGH POLYURETHANE CABLE

Polyurethane cables are used in place of the standard PVC for the following reasons :-

- Greater retractability
- Enhanced memory of it's curl
- Non-Toxic
- Greater mechanical strength for durability
- 12 X 0.2mm wires used internally for greater strength.
- PTFE inner insulation for strength and retractability.

- POLYPROPYLENE HANDLE

Polypropylene is an extremely tough and durable material, commonly used for milk crates, it has good low temperature performance and a relatively high melt temperature. It performs exceptionally well under chemical attack.

- WIDE AMBIENT TEMPERATURE SPECIFICATION : -50 TO 50 °C

HVC01 Case

Carry Case with Inserts for a Handheld Thermometer, Plug Mounted Probes, Clamp Temperature Probes, Plug to Plug Cable and Accessories. An ideal way to keep your temperature measuring equipment in one place and protected.

Case Measurements: · 26cm x 17.5cm x 9.5cm (approximate external)

Holds Up To

- 1 x Handheld Thermometer
- 4 x Plug Mounted Probes
- 1 x Handle for Plug Mounted Probes
- 2 x Clamp Temperature Probes
- 1 x Plug to Plug Cable
- 1 x Spare Battery

Cross-reference for compatible probes

Suitable probes for use with this instrument

| TME PART No | DESCRIPTION | APPLICATION | T/C TYPE |
|-------------|---------------------------------|--|----------|
| | | | |
| KM01 | LIGHT DUTY M.I. PROBE | GENERAL PURPOSE LIQUID/GAS MEASUREMENT | K |
| KM03 | M.I. PROBE | GENERAL PURPOSE LIQUID/GAS MEASUREMENT | K |
| KM04 | M.I. PROBE EXTENDED LENGTH | GENERAL PURPOSE LIQUID/GAS MEASUREMENT | K |
| | | | |
| KS01 | SURFACE BAND PROBE | FAST RESPONSE SURFACE MEASUREMENT | K |
| KS07 | SURFACE PROBE | GENERAL PURPOSE SURFACE MEASUREMENT | K |
| KS08 | HIGH TEMP SURFACE PROBE | HIGH TEMPERATURE SURFACE MEASUREMENT | K |
| | | | |
| KA04 | AIR TEMPERATURE PROBE | FAST RESPONSE AIR TEMPERATURE PROBE | K |
| | | | |
| KH01 | SOCKET IN HANDLE | HANDLE FOR USE WITH PLUG MOUNTED PROBES | K |
| KHA02 | PLUG MOUNTED AIR PROBE | FAST RESPONSE AIR TEMPERATURE PROBE | K |
| KHM01 | PLUG MOUNTED M.I. PROBE | GENERAL PURPOSE LIQUID/GAS MEASUREMENT | K |
| KHN01 | PLUG MOUNTED NEEDLE PROBE | CORE TEMPERATURE OF SEMI-SOLID MATERIAL | K |
| KHS01 | PLUG MOUNTED SURFACE BAND PROBE | FAST RESPONSE SURFACE MEASUREMENT | K |
| KHS02 | PLUG MOUNTED SURFACE PROBE | GENERAL PURPOSE SURFACE MEASUREMENT | K |
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| PKHV1 | HVAC KIT | PROBE KIT DESIGNED FOR THE HVAC INDUSTRY | K |
| PKGP1 | GENERAL PURPOSE KIT | PROBE KIT CONTAINING MOST POPULAR PROBES | K |
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| KPS10 | PIPE CLAMP PROBE | PROBE DESIGNED TO BE CLAMPED ONTO PIPES | K |
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