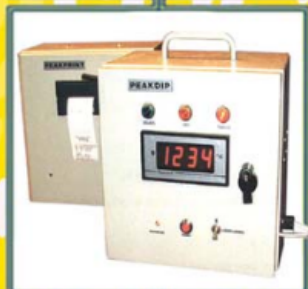




# Molten Metal Instrumentation



**STERLING SENSORS**  
TEMPERATURE SENSING TECHNOLOGY

## DPP - DIGITAL PORTABLE PYROMETER

Our DPP, is a rugged battery powered portable pyrometer with a 4-digit green or red LED display. It is supplied with a 1.25 metre steel dip arm, which holds the thermocouple connector and it's extension lead.

The sequence indicating lights, located at the side of the display, plus various display signals keep the operator fully informed of progress throughout the measurement process.

Sterling's DPP is ranged to use type B, K, N, R or S thermocouples in degrees Celsius or Fahrenheit.

Type 'K' can be supplied hard wired, or plug-in with Accutip II or Marshall swaged dip arms. Alternatively a KwikTip K-90 dip arm can be used for a quicker response.

Type 'B', 'R' and 'S' have a dip arm fitted with a positherm or 'MMT' connector for use with plug-in expendable thermocouples.

Type 'N' is supplied fitted with an Accutip II or Marshall swaged dip arm.





## SMARTDIP

The Smartdip, similar to the DPP is a battery powered portable pyrometer. Housed in a tough, lightweight aluminium case and with a single button operation, it searches, holds, displays and stores the peak stable temperature.

An ideal tool for obtaining your molten metal temperature data.

It stores up to 1000 temperature readings including time and date for batch downloading to windows compatible software.



The instrument has a red or green 4 digit LED display, which automatically indicates 'low battery voltage', 'broken thermocouple' and 'reversed polarity' keeping the operator informed of the instruments status throughout the measurement process.

Sterling's Smartdip is ranged to use type B, K, N, R or S thermocouples in degrees Celsius or Fahrenheit, for ITS90, IPTS68 or IPTS48 International Calibration Standards.

The dip arm's that can be supplied with type's B, K, N, R or S are the same for the DPP and the Smartdip.

## DIP ARMS

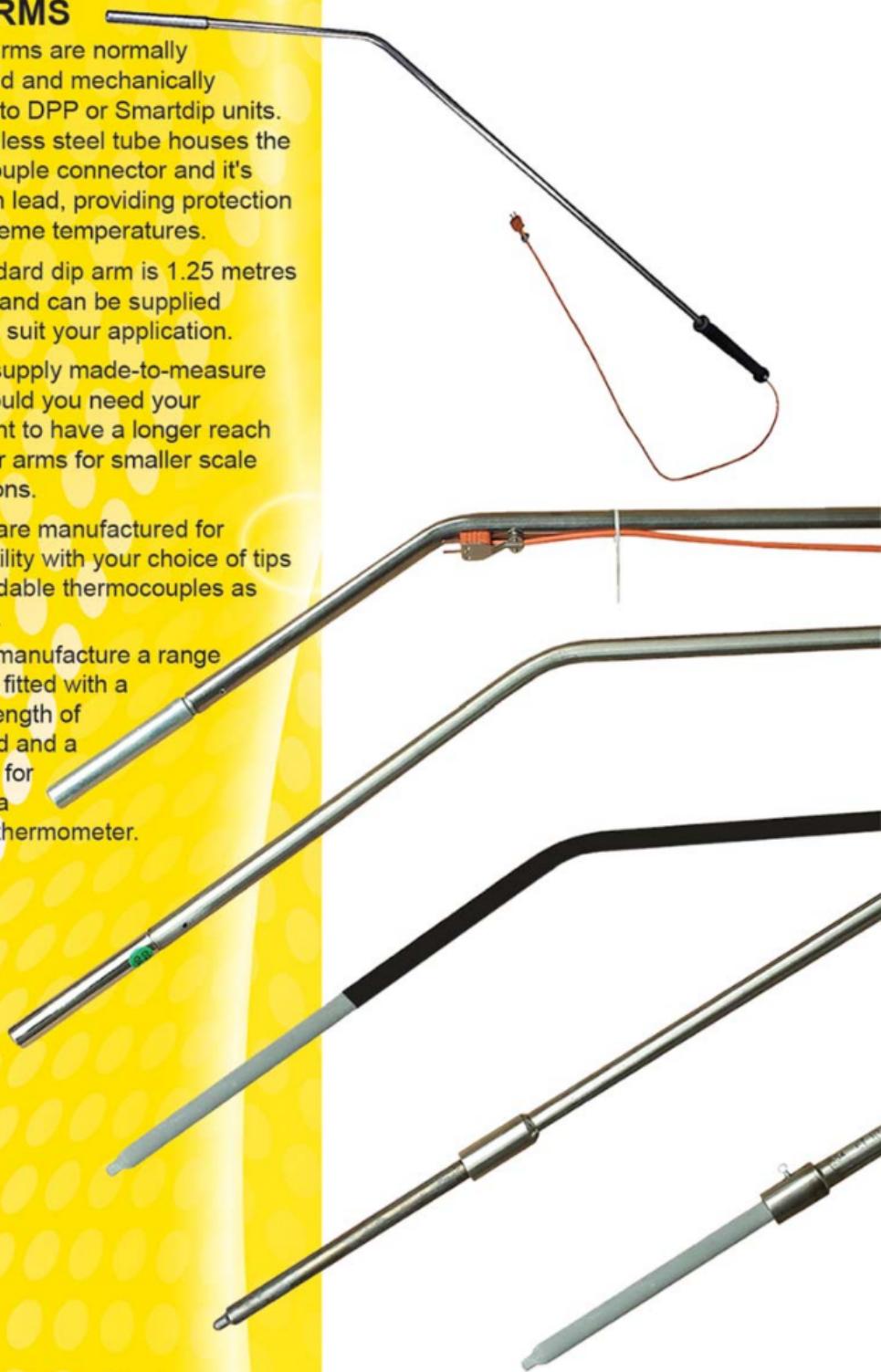
Our dip arms are normally hard wired and mechanically clamped to DPP or Smartdip units. The stainless steel tube houses the thermocouple connector and it's extension lead, providing protection from extreme temperatures.

The standard dip arm is 1.25 metres in length and can be supplied angled to suit your application.

We can supply made-to-measure arms should you need your instrument to have a longer reach or shorter arms for smaller scale applications.

All arms are manufactured for compatibility with your choice of tips or expendable thermocouples as standard.

We also manufacture a range of lances fitted with a handle, length of flying lead and a mini-plug for use with a portable thermometer.





## DIGICARB/14

DIGICARB/14 is a microprocessor based digital instrument for the automatic thermal analysis of molten iron. It is designed for use with plug-in, fast response, type 'K' thermocouple sample cups.

A 7-position switch enables selection for the continuous display of:

- Liquidus Temperature
- Solidus Temperature
- Carbon Equivalent Liquidus %
- Carbon %
- Silicon %
- Phosphorus % (adjustable)
- Silicon Offset % (adjustable)

A separate two-way switch overrides the above analysis selection and allows the cooling curve temperature to be continuously monitored.



**Digicarb/14**  
STERLING SENSORS



## CALIBRATION

We calibrate sensors and instrumentation in our state-of-the-art calibration laboratory.

All of our molten metal instrumentation is supplied calibrated as standard.

As we are an ISO 9001 certified company all sensor calibrations are supplied with UKAS traceable certification.



PEAKDIP is a mains powered instrument designed for use in the foundry in conjunction with a dip arm and flying lead.

Sequence indicating lights monitor the progress of the measurement.

- The green light indicates the thermocouple is plugged-in.
- The amber light indicates the temperature is rising.
- The red lamp indicates when a steady temperature plateau is reached.

When the red light illuminates the operator removes the arm from the melt and the peak temperature is displayed for 15 seconds.



SMARTPOUR is a non-contact infrared molten metal temperature monitoring system, which automatically checks the stream temperature as it pours into the mould.

The instrument is installed on the moulding line and automatically monitors, stores and displays the temperature of each mould.

High and low temperature limits are set manually and the operator is alerted should these limits be exceeded.

SMARTPOUR may also be used to monitor a continuous molten stream, in this case a representative temperature will be computed & displayed every 20 seconds.

## TIPS & EXPENDABLE THERMOCOUPLES

We supply a range of tips and expendable thermocouples for use with our instrumentation, from multi-use type 'R' expendables to sampling cups and more durable thermocouple elements.

Expendable multi-use thermocouples are often used for ferrous metals and higher temperature applications and are often disposed of after 5-10 dips.

Thermal analysis cups are disposable sampling cups used in the thermal analysis of molten iron. They are placed onto a contact block which holds the cup in place. The contact block feeds back to the Digicarb/14 and readings are displayed.

Positherm or 'MMT' connectors are fixed into the tip of the dip arm and are hard wired back to the DPP or Smartdip using high temperature type 'R' cable. An expendable multi-use thermocouple is then placed over the connector before being dipped into the melt.



Kwik-Tip K-90 is a fast response plug-in Nickel Chromium/Nickel Aluminium type 'K' expendable thermocouple for use in non-ferrous molten metals up to 1300°C. It's fast response time means it is ideal for taking temperatures of metal in transit. Immersions per tip varies from 3 to 10 with the type of metal and slag conditions.



swaged thermocouple elements are accurate and durable tips for use in non-ferrous metals.

These elements are made up of a mineral insulated thermocouple welded into a stainless steel/chromium tip. They are more durable than expendable tips but have a much slower response time.



## OUR ENVIRONMENTAL POLICY

Sterling Sensors UK Ltd  
is committed to reducing its impact on the environment.  
This shortform brochure is one of a series of measures  
undertaken to reduce our carbon footprint.



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