RS PRO ThermoBluetooth Logging Thermometer

204-8412

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Introduction

Welcome to the high accuracy, microprocessor driven ThermoBluetooth Logging thermometer.

Your thermometer records time, date and temperature with buit-in Bluetooth communication for data transmittal to PC.

Designed for use with thermocouple types K, J, T, R, N, E, S or Infra-Red sensors.

Features

- SINGLE INPUT
- LOGS UP TO 1,000 TIMED AND DATED TEMPERATURE RECORDS
- DOWNLOAD DATA WIRELESSLY TO PC VIA INBUILT BLUETOOTH COMMUNICATION
- SOFTWARE CAN INTEGRATE DATA WITH EXISTING SYSTEMS
- ℃/℉ SELECTABLE
- OVERRANGE / OPENCIRCUIT PROBE INDICATION
- RETENTION OF THERMOCOUPLE TYPE AND SCALE
- LOW BATTERY INDICATION

Display fig 1

- TIME/TIMER
- TEMPERATURE SCALE
- MAIN DISPLAY
- THERMOCOUPLE TYPE
- BATTERY LOW INDICATION
- BAT LOW
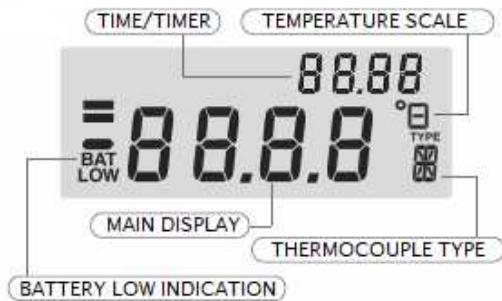
Software Screenshot

ThermoBarScan — T.M.Electronics (UK) Ltd 01903 700651

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TECHNOLOGY IN TEMPERATURE

Version 8.0.0.0

Instrument Selected

Name: toms
Serial No: 123456

Message Box: Ready

Select Bluetooth | Discovery | USB | **Download Data** | Translate Barcodes | Setup | Print Barcodes | Alarms | Information

Scan	Serial No	Time	Date	Temp	SCL	Alarm	Barcode	Translation
1	555555	16:50:36	21/10/13	19.6	C	NO AL	Chiller 1	
2	555555	16:51:19	21/10/13	19.8	C	L AL	Chiller 1	
3	555555	18:49:02	22/10/13	61.6	C	NO AL	070177075101	
4	555555	16:36:50	20/11/13	----	C	NO AL	243FBMC1	
5	555555	16:44:04	20/11/13	----	C	NO AL	243FBMC1	
6	555555	16:44:14	20/11/13	----	C	NO AL	243FBMC1	
7	555555	16:47:10	20/11/13	----	C	NO AL	243FBMC1	
8	555555	16:47:59	20/11/13	20.7	C	NO AL	243FBMC1	
9	555555	16:49:38	20/11/13	21.2	C	NO AL	243FBMC1	
10	555555	13:08:13	24/01/14	20.1	C	LEG	WJSART2TAP3	
11	555555	13:08:21	24/01/14	20.0	C	LEG	Tap 1	
12	555555	13:08:30	24/01/14	20.0	C	L AL	Chiller 1	
13	555555	13:08:40	24/01/14	19.8	C	H AL	Meat Fridge	
14	555555	13:08:50	24/01/14	19.2	C	L AL	Hot Plate 7	
15	555555	13:08:59	24/01/14	18.9	C	L AL	BCC709PJSO15FP10	
16	555555	13:09:09	24/01/14	18.9	C	OK	RSC09R47SP1	
17	555555	13:09:19	24/01/14	18.9	C	OK	PRH32R24TP1	
18	555555	13:09:31	24/01/14	19.0	C	L AL	U12BS323SBDP17	

Translate Barcodes
Get Data
Clear Screen Data
Save Data
No of Scans: 0020
Scans Downloaded: 20
Latest Scan
Live Data
Clear Instrument

Print Preview | Print Setup | Print

OPERATING INSTRUCTIONS

To Measure Temperature

1. Fit the battery in to the instrument (refer to battery replacement details)
2. Switch thermometer ON.
3. Plug thermocouple into input socket
4. Check temperature scale is correct. (℃/℉)
5. Check thermocouple is correct
6. Take measurement by contacting the object with probe and reading from the display

Changing Temperature Scale **on the Keypad** (℃/℉)

To change the temperature scale simply press the button marked 'SCL'. The temperature scale will alter as shown on the right hand side of the display.

Changing Thermocouple Type

To change thermocouple type, follow the sequence below:

1. Switch the unit OFF.
2. Press and hold the 'SCL; button
3. Switch the unit ON.
4. Release the buttons.

The new thermocouple type will appear in the bottom right hand corner of the display (see fig 1). Repeat steps above until the desired thermocouple type is shown.

Replacing The Battery

The instrument will indicate 'BAT LOW' when the battery needs changing.

To change the battery, firstly remove the unit from the outer case. The battery compartment is on the rear of the instrument. Using a small screwdriver ease back the tab of the battery compartment. The compartment will then lift away.

Please note that we recommend re-setting the time and date when changing the battery. To correctly set the time and date, go to 'Setup' tab within the software.

Open Circuit Thermocouple Detection

An error in the probe is shown on the display by a series of bars ;------' coupled with the word 'INPUT' at the top of the display. This indicates either that the probe has an error or the temperature is out of range.

SPECIFICATIONS

Environmental

Ambient operating range	-30°C to 50°C (-21 to 122°F)
Storage temperature range	-40°C to 60°C (-40 to 140°F)
Humidity	0 to 70% R.H.

ELECTRICAL

Measurement Ranges

	CENTIGRADE			FAHRENHEIT		
K	-200ºC	to	1372ºC	-328ºF	to	2501ºF
T	-200ºC	to	400ºC	-328ºF	to	752ºF
R	-50ºC	to	1767ºC	-58ºF	to	3212ºF
N	-200ºC	to	1300ºC	-328ºF	to	2372ºF
J	-200ºC	to	1200ºC	-328ºF	to	2192ºF
E	-200ºC	to	1000ºC	-328ºF	to	1832ºF
S	-50ºC	to	1767ºC	-58ºF	to	3212ºF
I/R	-50ºC	to	200ºC	-58ºF	to	392ºF

Accuracy@23ºC	±0.15% of reading ±0.2ºC
Characterising error	less than 0.05ºC
Temperature coefficient	0.01% of reading/ºC
Cold junction compensation	0.0075ºC/ºC
Resolution	0.1ºautoranging to 1º 1000º

Note
Strong RF fields may adversely affect measurement accuracy.

General

WEIGHT	155 gms (5.47 oz)
DIMENSIONS	130 x 70 x 33 mm
BATTERY	PP3
BATTERY LIFE	200 Hours

PC Setup

Installing the Software - What you need

- Bluetooth dongle (we recommend the Belkin dongle with Widcomm stack)

OR

- Bluetooth enabled PC or laptop

- GcZHk UfY˙78

How to install your Software

! If you need to install a Bluetooth dongle, please install this before installing the software.

Place the CD into the CD drive of your PC or laptop.

The CD should 'Autorun' and install. If not, please select '*setup'* and follow these instructions-

Click '*next'* to install the software

You will then be asked to install the software to

C drive directory under '*C:\Program Files\TME'*

- click *'next'* to accept this.

The software will automatically create a shortcut icon on your desktop so the software can be easily accessed.

Start the **ThermoBarScan** software by clicking on the desktop icon

Bluetooth Setup

To connect the TME to Bluetooth use.
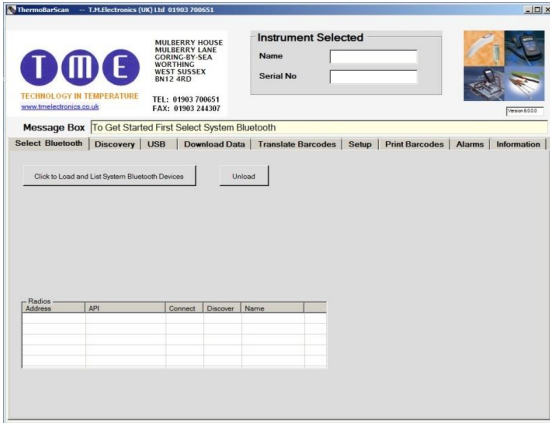
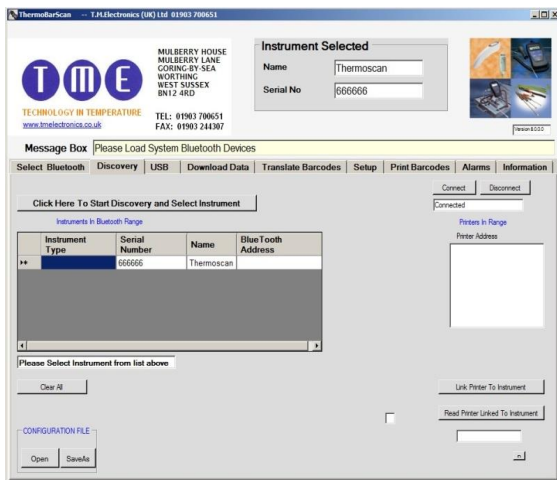Select **Click To Load And List System Bluetooth Devices**.

You should now see at least one of the driver boxes ticked and any Bluetooth devices will be listed. Highlight the one you wish to use.

! We recommend either Microsoft or Widcom as drivers

Discovery

Select the **Discovery** tab and then **Click Here to Start Dicovery And Select Instrument**

The devices within Bluetooth range will be displayed and their Bluetooth addresses shown. Click to connect to the instrument you wish to connect to.

Once connected, the software will display the instruments name and serial number. To swap between devices, simply click on another instrument.

Pairing your Instrument to a Bluetooth Printer

You are able to print data (print header, time, date, temperature) directly from your instrument to a Bluetooth Printer. To do this, you must firstly pair the two devises:

Discover the instrument and printer you wish to pair in the software.

When discovered, highlight the address of the instrument and printer and press **Link Printer to Instrument**. This will pair the two devices together.

To check that the devices are paired,click the **Read Printer Linked to Instrument**. The Printer address will appear in the field below to indicate that the devices are paired.

The devices are now ready for use

Note: you can create a print header in the **Setup** tab

Printing from your Paired Instrument and Printer

You have the option of printing either the last reading or all data from the instrument.

To print single data, firstly ensure your printer is on and instrument is in Bluetooth mode.

Press the **Scale (SCL)** button on the instrument. You will find that the dispaly will show the letter **'S'** (single), release the button.

The printer will print out your latest scan data.

To print all data, press and **hold** the Scale (SCL) button. You will find that the display will change from the letter **'S'** (single) to the letter **'A'** (all).

The printer will print out all your data.

USB Set Up

For ThermoBar instruments with USB connection only.

Click on the **USB** tab.

Turn the instrument on and connect to a computer with the cable provided.

Press the Bluetooth button. 'USB' will appear on the display

Click on the *Discover Serial Ports* Button.

Select the appropriated 'USB Serial Port' and the instrument will automatically connect. The Name and Serial Number will be displayed.
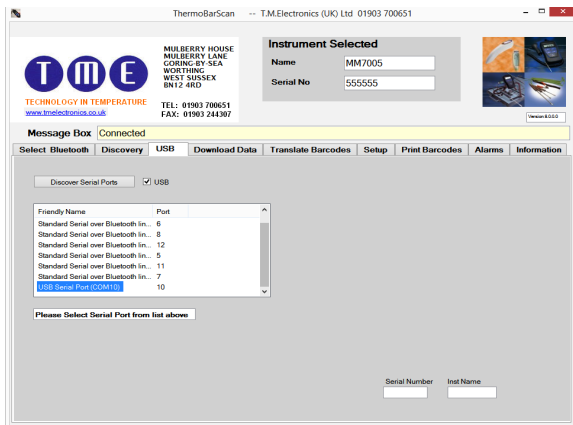
Setting Instrument Parameters

Using the software, under **Setup** tab, you are able to set the instrument's parameters. These are:

1. **Set Time and Date** - the time and date is read from your PC. To set the time and date, select **Read Time/Date** and then **Set Time/Date to System**

2. **Set Sensor Type** -sets the thermocouple type e.g K or T.

3. **Set Temperature Scale** - sets the temperature scale e.g ℃ / °F

5. **Set Print Header - allows you to assign a heading
   for the print reports when using a Bluetooth Printer.**

Other features include:

**Autoswitch On - allows you to check if the autoswitch
on/off function has been enabled.**

Battery Power - allows you to monitor battery life.

**Once you have set your parameters, you can check
that the settings have been stored by using the
Read functions.**

The instrument is now ready for use.

To Take a Reading

Connect a thermocouple sensor to the top of the instrurment and wait for the temperature reading to stabilize. Once the reading has stabilized, press the **LOG** button.

This will freeze the temperature measurement and record the data
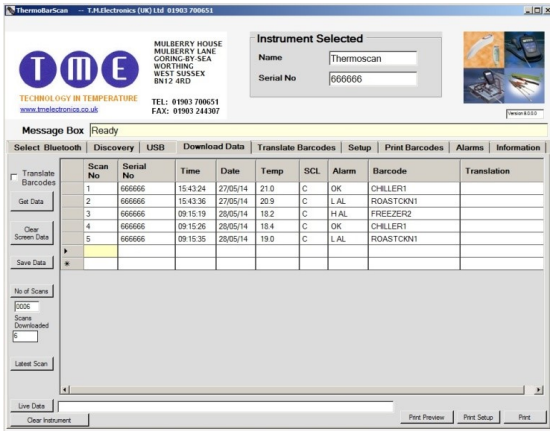
Temperature, Date and Time will be logged to the internal memory.

To Retrieve the Information

Use the software to discover and connect as before.

When connected select the **Download Data tab** and then select the **Get Data** button.

The data stored on the instrument will then appear as a numbered list.

Other functions within the Download Data tab

1. **Clear Screen Data** - clears downloaded data from software.
2. **Latest Scan** - displays the latest scan.
3. **Live Data** - displays the instruments data in real time (scan number, serial number, time, date, temperature, temperature scale, alarms and barcode.)

4. **Clear Instrument** - clears all data stored within the instruments memory.
5. **Print Preview** - allows you to preview your data before printing.
6. **Print Setup** - allows you to set up your printer.
7. **Print** - Print data directly from the software.
8. **Save Data** - saves your data as a 'CSV' file.

Saving your Data

To save your data, select the **Download Data** tab and download your data as before.

Select **Save File** button.

In the box that appears, select where you wish to save the data, type in a file name and click save.

Your data will be saved as a CSV (comma separated value) file which can be readily imported to a spreadsheet.

Accessories

A wide variety of thermocouple probes are available for use with this instrument" The following is just a sample of the probes available in the RS PRO range online.

342-8899 - General Purpose Probe for use with running water. Temp Range: -200 to 1100 ˚C

712-8196 - Dual Surface/Immersion Probe - a combined probe for measuring the temperature of running water, radiators and pipes. Temp Range: -50 to 250℃

342-8962 - High Temperature Surface Probe for surfaces such as radiators and pipes.

Temp Range: -50 to 600℃

409-4908 - Fine Wire Probes for hard to reach areas. Available in different lengths.
Temp Range: -100 to 250℃

342-9022 - Flat Food/Pallet Probe for testing between boxes in a goods-in area.
Temp Range: -50 to 300°C

342-8849 - General Purpose Needle Probe for the penetration of semi solids. Temp Range: -100 to 280°C

Recalibration

It is recommended that the calibration of thermometers si performed annually, you may wish to consider the high accuracy thermocouple simulator for use as a calibration check on this or any other thermocouple instrument.

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