



# Legionella Management Systems

## L8MS ThermoTrends

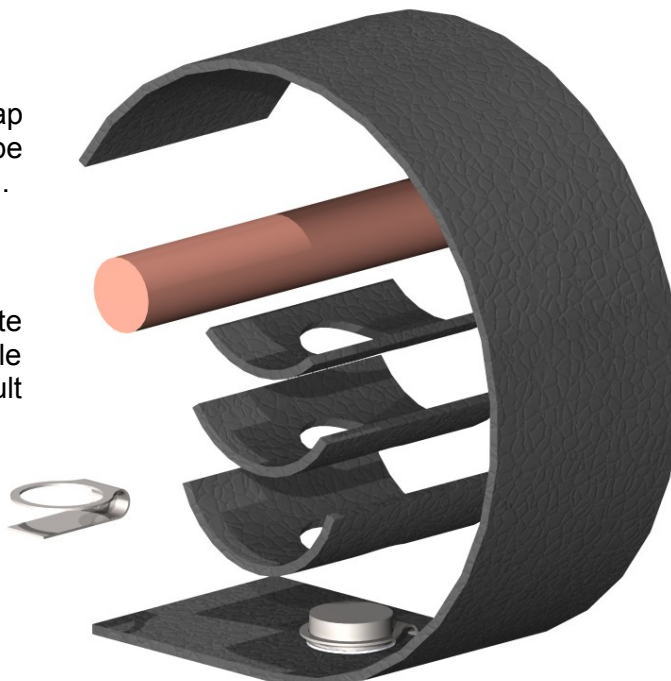
L8MS ThermoTrends is a combination of Thermochron iButtons, easy fixing, and software development designed to make it easy to collect temperature measurements from pipes and make the results available to multiple individuals via a central website.

- **FAST & SIMPLE** - We have made the process simple to use, setting up the test point on the internet, sending it to a Netbook / laptop for on-site setup, no tools wrap on installation and easy to send the results back to the internet for displaying to the web.
- **ENHANCE SERVICE VISITS** - On the spot monthly temperature monitoring visits sample water temperatures as a snap shot which can easily conceal quite different conditions. L8MS ThermoTrends enhances monthly monitoring by filling in the detail between service visits.
- **AFFORDABLE ALTERNATIVE** - While integrated Building Management Systems (BMS) provide alarms and continuous real time monitoring, and there are WiFi based systems for temperature reporting, these solutions are relatively expensive to retro fit. L8MS ThermoTrends offers a very affordable alternative especially when added into current monitoring activities.
- **PROOF OF SERVICE** - As results can only be collected by attending the iButton location on site the data collection process offers useful proof of service by staff and contractors.
- **OTHER USES** - Predominantly designed for use in water hygiene monitoring and *Legionella* control. This simple solution also has applications for monitoring heating systems and other environmental situations where reducing energy consumption is under investigation.

A 50mm wide self-sticking Velcro strap makes it easy to fit the iButton to pipe sizes from 15mm to 102mm as standard.

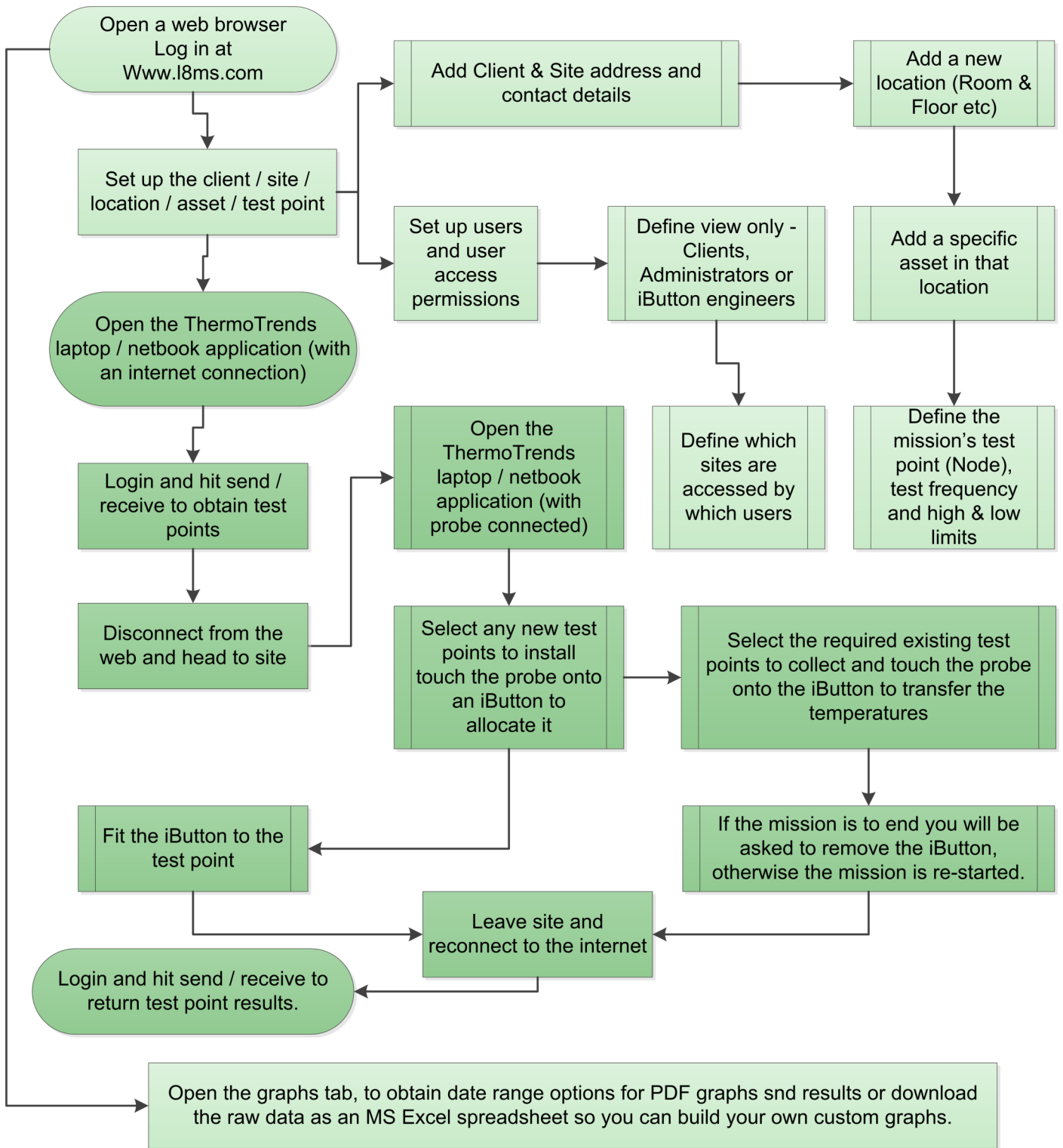
Three self-sticking Velcro pads insulate the iButton and improve the fit, while easily pulling to one side for result collection.

A purpose made metal loop holds the iButton firmly to the strap.



Software systems that work hard,  
so you **don't**.

**A brief description of the process to set up a new test point and collect temperatures.**

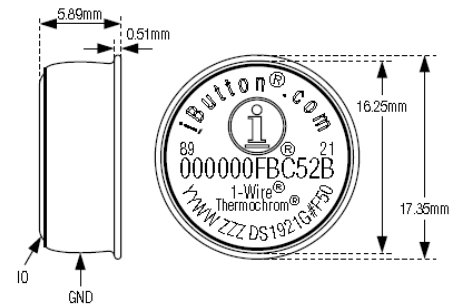


Actions completed using a web browser

Actions completed using a netbook app

## iButton Technical details

- Digital Thermometer Measures Temperature in 0.5°C Increments
- Accuracy  $\pm 1^\circ\text{C}$  from  $-30^\circ\text{C}$  to  $+70^\circ\text{C}$  although surface mounting results in reading errors of approximately  $2^\circ\text{C}$  (towards ambient) and a 5 minute reaction time to reach a steady reading.
- Built-In Real-Time Clock has an accuracy of  $\pm 8$  Minutes per Month (Updated to system time when results are read)
- Automatically Wakes Up and Measures Temperature at intervals from 1 minute to 255 minutes users defined.
- Logs up to 2048 consecutive temperature measurements.
- Each iButton has a Unique Registration Number
- Operating temperature range  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$
- Product lifespan at  $<30^\circ\text{C}$   $>5$  years, at  $60^\circ\text{C}$   $>2$  years, at  $80^\circ\text{C}$  approximately 1 year.



Temperature testing frequency 1 to 255 (Minutes)	Possible use	Maximum period before results need collection
1	Confirmation of daily temperature profiles during risk assessment or investigative works.	34 Hours
5	To confirm the use of Infrequently used outlets. (Accurate temperatures would not be collected but peaks indicate usage frequency)	7 Days
30	Monthly temperature monitoring of flowing pipework such as calorifier outlet and return, riser flow and return or cold water distribution.	42 Days
255	To monitor temperatures of cold water storage every 4 1/4 hours across the seasons.	360 Days

The DS1402-RP8 probe and DS9490R USB adaptor are used to set up iButton missions and read the temperature monitoring results.

The probe needs to be attached to a Microsoft Windows netbook or laptop (or desktop)

### Specification

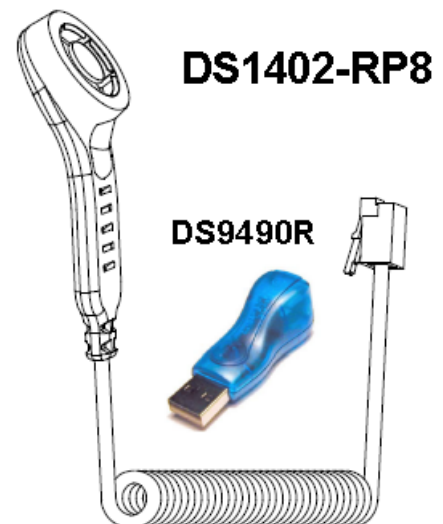
Spare USB port

Internet connection with access to [www.l8ms.com](http://www.l8ms.com) on port 80

Windows XP, Vista or 7

DS9490R Drivers (Installed if not present)

Net Framework version 3.5 (Installed if not present)



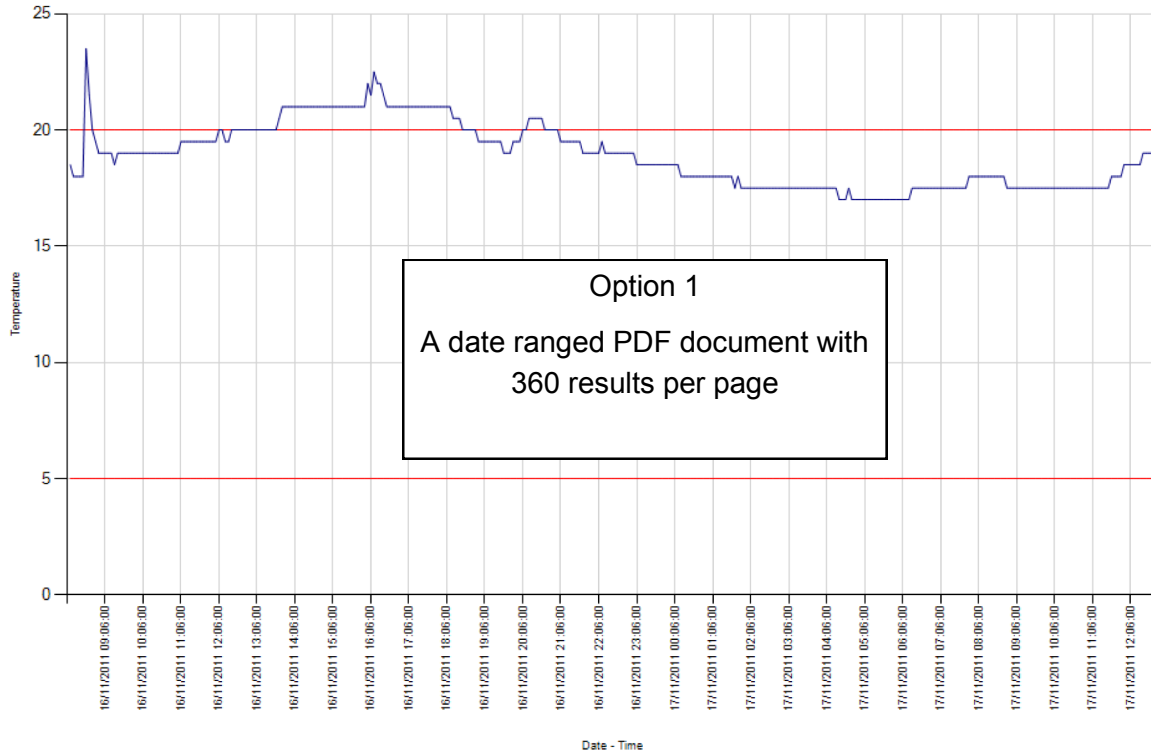
# An example of the output options available from the website

Client Name: Graham's House  
Site Name: Graham's House

Location Name: Ground Floor - Toilet  
Asset Name: 1 x WHB (WHB-1)  
Node Point: Cold Inlet

Page Number: 3

Collection Date: 17/11/2011 21:38:19

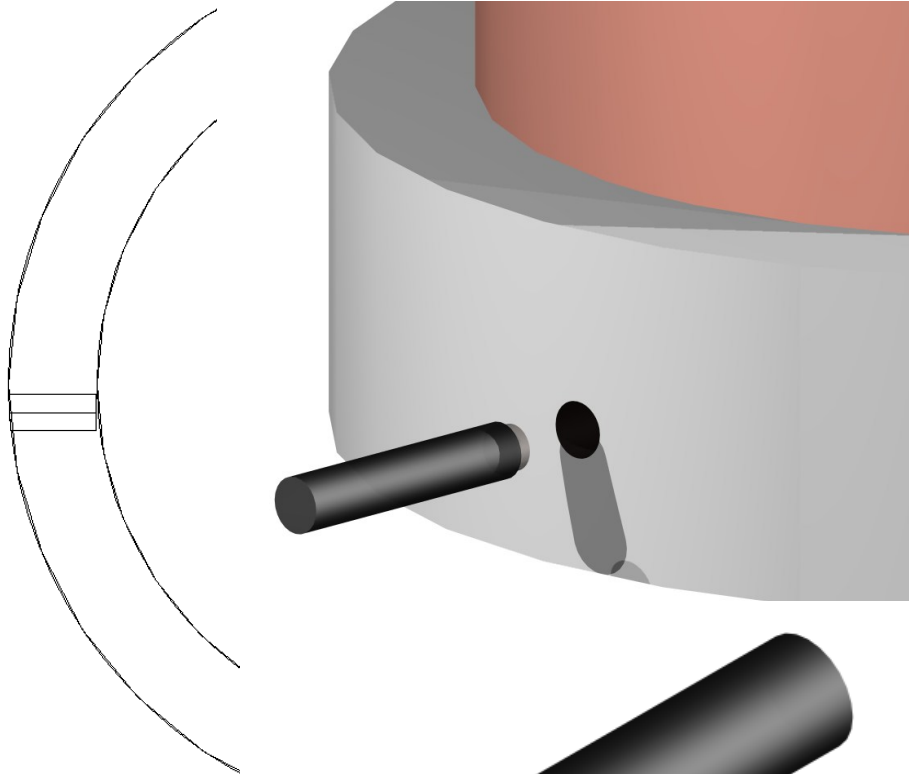
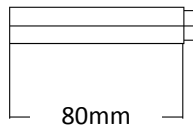


Microsoft Excel screenshot showing a data table with columns: A, B, C, D, E, F, G, H, I, J. The table contains 21 rows of data. A text box in the center of the table reads: 'Option 2 A date ranged Excel document of the raw results for you edit or graph to your individual requirements.'

A	B	C	D	E	F	G	H	I	J	
1	GS 1	GS 2	Client Name	Site Name	Location Name	Asset Name	Node Point	Result	Result Date - Time	Collection Date - Time
2	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	22	11/17/2011 9:44:00 PM	11/18/2011 5:34:54 PM
3	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	21.5	11/17/2011 9:49:00 PM	11/18/2011 5:34:54 PM
4	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	21	11/17/2011 9:54:00 PM	11/18/2011 5:34:54 PM
5	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	21	11/17/2011 9:59:00 PM	11/18/2011 5:34:54 PM
6	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	21	11/17/2011 10:04:00 PM	11/18/2011 5:34:54 PM
7	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	21	11/17/2011 10:09:00 PM	11/18/2011 5:34:54 PM
8	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:14:00 PM	11/18/2011 5:34:54 PM
9	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:19:00 PM	11/18/2011 5:34:54 PM
10	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:24:00 PM	11/18/2011 5:34:54 PM
11	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:29:00 PM	11/18/2011 5:34:54 PM
12	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:34:00 PM	11/18/2011 5:34:54 PM
13	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:39:00 PM	11/18/2011 5:34:54 PM
14	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	20	11/17/2011 10:44:00 PM	11/18/2011 5:34:54 PM
15	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 10:49:00 PM	11/18/2011 5:34:54 PM
16	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 10:54:00 PM	11/18/2011 5:34:54 PM
17	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 10:59:00 PM	11/18/2011 5:34:54 PM
18	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 11:04:00 PM	11/18/2011 5:34:54 PM
19	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 11:09:00 PM	11/18/2011 5:34:54 PM
20	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 11:14:00 PM	11/18/2011 5:34:54 PM
21	1	1	Graham's	Graham's	Ground Floor	1 x WHB (WHB-1)	Cold Inlet	19.5	11/17/2011 11:19:00 PM	11/18/2011 5:34:54 PM

## Alternative fitting options available

20mm diameter rod,  
requires a 20mm  
diameter hole cut into  
the insulation



### Insertion Probe

Designed to allow trend monitoring at the base of water heaters with hard insulation a 20mm diameter hole is required through the insulation. The iButton is end mounted on a nylon rod allowing easy insertion and removal for results collection in the normal way

### L8MS Services *Do Not* Include: -

- Water treatment chemicals;
- Chemical service visits;
- Softeners;
- Dosing pumps or control systems;
- Cleaning & disinfection services;
- Regular on-site monitoring.

*This position allows us to work with our clients in a truly independent manner, identifying the most significant outstanding risks and offer practicable solutions.*



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