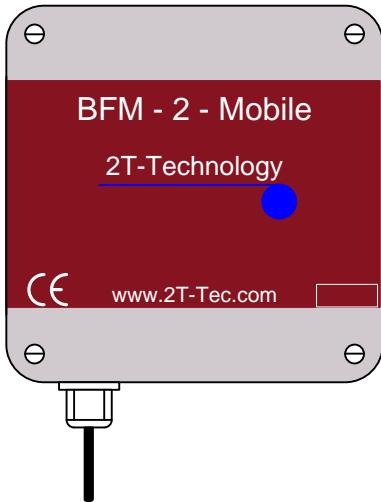


**Boiler, Freezer & Machine
2 Mobile (BFM2M)**

Installer Manual



Device Telephone Number: _____

Default Security code: _____8531_____

QUICK START—Basic Installation Steps

1. If there is a SIM installed in the BFM2M skip to step 3.

While it is unusual at this time for a newly purchased SIM to have a PIN number, it is important to understand what the PIN number is and to be aware that SIM cards obtained from some sources will have a PIN number for security reasons. If the SIM card has a PIN number and it is not disabled then the unit will not start correctly and it will not register on the mobile network. If 2T-Technology have supplied a SIM with the unit then it will not have a PIN number.

2. Un-programme the PIN number from the SIM card.

SIM Cards have a PIN that the phone user must enter when turning on their phone. This is stored in the SIM and must be removed for the unit to work. This is done by placing the SIM in any mobile phone and going to the 'Settings', then 'Security' menus. Then Turn Off the PIN Code request.

3. Configure the Outputs of your Boiler, Freezer or machine to be Negative so that the output will pull down one of the 4 inputs of the BFM2M when activated.

4. Supply the source of power to the BFM2M. The Power Light should come on, on the Unit.

5. Give the Unit about 2 minutes to register when first turned on. When the Signal Strength light is on constantly or flashing the unit has registered on the network. If the signal strength light fails to light at all you may have to change the position of the device to pick up a GSM signal. On occasions we have had to change the SIM to one from another network to get acceptable signal strength. 2T can also supply external and extended antenna if required. This will boost the signal level available to the device.

6. Now program the BFM2M device with the numbers to which you wish to text when an event occurs.

These are also the numbers allowed to control the device by placing a call to it.

Send This Text

Receive this text response.

phone 1 0872736678

phone 1 0872736678
programmed.

Remember to put the full telephone number into the device including area or country codes, that you would have to use if calling that number from any mobile phone.

Note: Up to Four more numbers can be programmed into the phone list of the **BFM2M** Unit.

Use the following Text commands:

phone 2 0872234355
phone 3 0872435522
phone 4 0872234366
phone 5 0872435511

Note: The telephone numbers used above are just examples. You will have to use the phone numbers you want to use with the device.

Sending an SMS Text report from the Device.

7. Test the system configuration

First off we would like to get a text message from the BFM2M to indicate one of the inputs has been activated.

This can be achieved in a number of different ways.

1. To test the BFM2M in standalone mode. Take a wire and connect one end of it to the BFM2M ground. Easiest is at the negative input where the power goes on the board.

With the device operating and displaying acceptable signal level, connect the other end of the wire to input 1 (Marked I/P 1 on the PCB) of the BFM2M.

2. Confirm that the BFM2M device sends the following text message to the phone numbers that you have added to the device.

Input 1 has activated

8. Configure your machine to activate the BFM2M inputs.

The outputs of your machine need to be set up to pull down the inputs of the GSM device. Then connect the output of your machine to input 1 of the BFM2M and confirm that the **BFM2M** device sends the following text message to the phone numbers that you have added to the device.

Input 1 has activated

9. Turn off reporting of messages from any input.

Reporting of all messages may not be required. To turn off the reporting of events on any input.

Send this text

Receive this
Text response.

Disable Message 1

Message Reporting on
Input 1 is disabled

* The command to enable a message is "Enable Message 1"

Placing a Telephone Call to the Device.

To control power to a machine or activate some event on that machine it is possible to use the volt free relay output of the BFM2M to do this.

The maximum voltages and currents that can be switched by this device are listed below.

Voltage	Max switching Load Current
AC 220—250 VAC	6A
DC 30V	3A

The relay can be pulsed or latched as required. Pulse is the default operation.

10. Test the system configuration by placing a call.

- Call the GSM device from one of the mobile numbers programmed into the GSM unit.
- The GSM unit will recognise the calling number and pulse relay 1. Relay 1 pulses by default.

Sending a Text command to the Device. – Relay Pulses

11. Test the system configuration by sending an SMS text to the GSM unit.

- Send the following text to the GSM Unit
Send This Text Receive this text response

On

Command
Received

- The GSM unit will accept the command and pulse relay 1 (if relay set to latch operation then it will operate as described below)

Sending a Text command to the Device. – Relay Latches

To make Relay 1 latch on an incoming call.

Send this text Receive this
Text response.

latch 1

Relay latched on
incoming call.
relay no. 1

- Send the following text to the GSM Unit
Send This Text Receive this text response

On

Command
Received

- The GSM unit will accept the command and switch relay 1

- Again Send the following text to the GSM Unit

Send This Text

Receive this text
response

off

Command Received

- The GSM unit will accept the command and switch back relay 1 to turn off this channel.

12. Latch Relay 1 for 30 minutes.

Send This Text

Receive this text response

On 1 30

Command
Received

- The GSM unit will accept the command and switch relay 1 to turn on the device connected to Relay 1. After 30 minutes channel 1 will turn off.

Note: This last command can be used whether the Relay is set to pulse or latch on an incoming call.

13. To make Relay 1 pulse on an incoming call.

Send this text

Receive this
Text response.

pulse 1

Relay pulsed on
incoming call.
relay no. 1

Checking Status of the BFM2M Controller Inputs.

The user can send an SMS text to the GSM unit to check the status of the inputs to see if they are currently activated or not.

Send This Text

Control status in

Receive this text response

input Activated
1 Yes
2 No
3 No
4 No

Checking Status of the BFM2M Controller Outputs.

The user can send an SMS text to the GSM unit to check the status of the Outputs to see if they are currently switched or not.

So to check whether the relay is switched.

Send This Text

Control status 1

Receive this text response

GSM Controller Switch:
OFF

Note: This really only works for relays that are latched for a period.

Advanced Installation Options.

If required in the future you may need to check phone numbers programmed in the phone list.

To Check Numbers in the Phone List.

For example to check what number is programmed into the first phone number in the list.

Send this text.

Receive This TxT Response

Send Phone 1

Phone 1 08??????????

To Program New Text messages to be sent to programmed phone numbers.

The default text messages can be changed to send different information in a text message.

For example; to change the message on input 4 to indicate a Fire event at Jim Smith's house.

Send this text.

Receive This TxT Response

Inp 4 Fire at Jim
Smiths

Input Message 4
Fire at Jim Smith's

- Note:**
1. Inp stands for Input
 2. Please keep this message short. Maximum number of characters is 26.

To Remove Numbers in the Phone List.

To remove an already programmed number we enter an invalid number such as the number 0. OR we can overwrite the existing number with a new number we want to use.

Send this text.

Receive This TxT Response

Phone 2 0

phone 2: 0 programmed

The newly programmed invalid number can not be reported to.

Test Call

To confirm that the BFM2M unit is operating correctly we can get it to generate a test text at any time.

Send this text.

Receive This TxT Response

Test

BFM2M GSM unit Test

To Change Relay Pulse Time.

When the relay is set to pulse on an incoming call, then the period of the pulse can be changed as follows.

Send this text.

Receive This TxT Response

time 5

pulse time 5

The time is in seconds and can be from 1 to 60 seconds.

Default is 10 seconds.

Default the SIM and the Device.

It is possible to reset the unit back to factory settings.

ENGINEER RESET - Return to Factory Settings.

***Warning:** Credit code, credit alarm and other settings will revert to their factory settings.

Send this text.

Receive This TxT Response

Default

Restored to Factory Settings.

ENGINEER RESET - Remove all Phone Numbers from the SIM.

***Warning:** This command will clear all programmed telephone numbers from the Phone lists.

***Warning:** This command can take up to 3 minutes to complete. Do not send any other commands to the BFM2M Unit until this command completes.

Send this text.

Receive This TxT Response

Default SIM

SIM Cleared

Options for Security Settings

If extra security is required when using the BFM2M Unit it is possible to enable a requirement for a security code when configuring the unit.

When the security code is on, then all text messages sent to the BFM2M Unit must be followed by the four-digit security code. The default four-digit code is 8531 The security code is OFF by default when the Unit leaves the factory. It can be turned on as follows:

To Turn on the Requirement for a Security Code.

Send this text.

Receive This TxT Response

code ON 8531

Security code on

Note: The command to turn off the code is “code off 8531”

Changing the Security Code.

Send this text.

Receive This TxT Response

Change XXXX YYYY

Security Code Changed

XXXX is the New Security Code, YYYY is the old Security Code.

Example: Change 1234 8531

Installation For Mobile Network

The BMF2M Unit can be used with bill pay or pre pay SIM cards. The company recommends' Bill pay SIMs. For pre pay cards the ability for the user to get an indication when credit is falling low is useful and allows the user to add credit when required. Confident that he can keep the BFM2M unit topped up with credit the user will be happy to use a pre pay SIM card.

The system is factory configured and automatically adjusts for an O2 SIM or a Vodafone SIM. To use a different network requires that you program a different Credit code.

Set the Credit Code

For example to set the credit code for vodafone in Ireland.

Send this text.

Receive This TxT Response

Credit code *174#

Credit Number Set

There are different codes for different networks.

Network	Ireland	UK
Vodafone	*174#	*#1345#
O2	*100#	*#10#
Meteor	*#100#	
Orange (UK only)		Orange not currently giving credit. (Use a bill pay SIM)

Turn Off The Credit Warnings.

Should the User switch to a Bill-Pay SIM or if credit monitoring is no longer required, it can be turned off as follows.

Send this text.

Receive This TxT Response

Credit alarm off

Credit alarm off

To Check the Remaining Credit on a SIM.

Send this text.

Receive This TxT Response

Control Credit

Credit = XX.XX

Fixing Problems.

Q1. I am sending a text messages to the BFM2M Unit but I'm not getting any response.

Check the following:

1. Is the PIN removed from the SIM Card? Put the SIM card into any mobile phone. When the mobile is powered up the phone should not look for a PIN if it has been disabled. If the mobile looks for a PIN then you must turn off the PIN request.

2. Is the Signal Strength LED flashing or on constantly? If it is OFF then either the device is not registered OR there is not enough signal strength for the device to work.

3. Move the position of the unit to obtain a stronger signal level. On occasions you will find that some operators have no signal strength in certain location while another will have good signal strength. This will require changing the SIM to one from an operator who has good coverage at this location.

Q2. I am sending a text message to the BFM2M but I'm getting the following response.

Command Error

Check the following:

1. Check the spelling of the txt message sent. Quite often this response comes from a command which is almost correct but is spelt wrong.

2. Has the requirement for a security code been turned ON? If a security code is required then it must be added to the end of every text message being sent.

Q3. I am sending a text message to the unit but I'm getting the following response.

Invalid Command

Check the following:

1. Check the spelling of the txt message sent. Quite often this message can come from wrong spelling.

2. Check the details of the command being sent against the details in this manual.

Intentionally left blank.

Limited Warranty

Centron Instruments Limited, trading as 2T-Technology (from here on referred to as “the company”) provides a warranty of 12 months from the date of purchase. This warranty covers defects in materials and workmanship under conditions of normal use by the original buyer only, or by the purchaser of this product through an approved distributor. In the case of any breach of such warranty, the company shall either repair or replace the defective equipment upon return of the equipment to its repair centre at the purchaser’s own expense.

This warranty does not apply to damages incurred in shipping, handling or other causes beyond the control of the company, including but not limited to; alterations to the product, abuse, improper application, lightening, physical damage, mechanical shock, excessive voltage or extremes in temperature.

While the product is an advanced security and automation system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system is subject to failure or compromise. Despite frequent testing and due to but not limited to all or any of the following; disruption in the electrical supply or communications, criminal or accidental tampering, it is possible for the system to fail to perform as expected.

The company does not warrant that the product or system may not be compromised, or that it will in all cases prevent loss of property by burglary, fire or otherwise, nor that it will in all cases give adequate warning or protection. A properly installed and maintained security system may only reduce risk of burglary, fire, robbery or otherwise, but it is not a guarantee that these will not occur.

In all instances the company recommends the use of Bill Pay SIMs. The use of pre pay SIMs does not guarantee continuous coverage for communication as the SIM may run out of credit or be removed from the network by the operator due to lack of credit top up or use.

Limited Warranty (Continued)

In all instances the company recommends regular testing of the system to confirm its ability to report alarm events. The system must be maintained by a registered installer annually, to confirm continued operation.

The company is not liable under any circumstances for any damages, loss of anticipated revenue, loss of time or any other losses resulting from the purchase, installation, use or failure of this product.

Rev 1.0

2T-Technology

A blue horizontal line is positioned below the text '2T-Technology'. At the right end of this line, there is a blue circle. The circle and the line are surrounded by a faint, yellowish glow.

www.2t-tec.com