Integration Note

Manufacturer:	Heatmiser
Model Number(s):	**Various**
Minimum Core Module Version:	6.3, Build 49
Document Revision Date:	6/27/2013

OVERVIEW AND SUPPORTED FEATURES

This driver allows a **g!** system to communicate with a Heatmiser heating system via Ethernet or RS-485.

HEATMISER HEATING SYSTEMS SUPPORT THE FOLLOWING FEATURES:

Any feature not specifically noted as "supported" is not supported.

Temperature Control: Temperature control can be managed by the viewer. Temperature can be shown as either Fahrenheit or Celsius on the viewer interface, and show one decimal place or whole numbers only.

Schedule Control: Multiple schedules can be set using the Viewer software. The schedules are tied to the house mode. All scheduling is handled by **g!** and any scheduling information residing in the thermostats will be disabled by the driver.

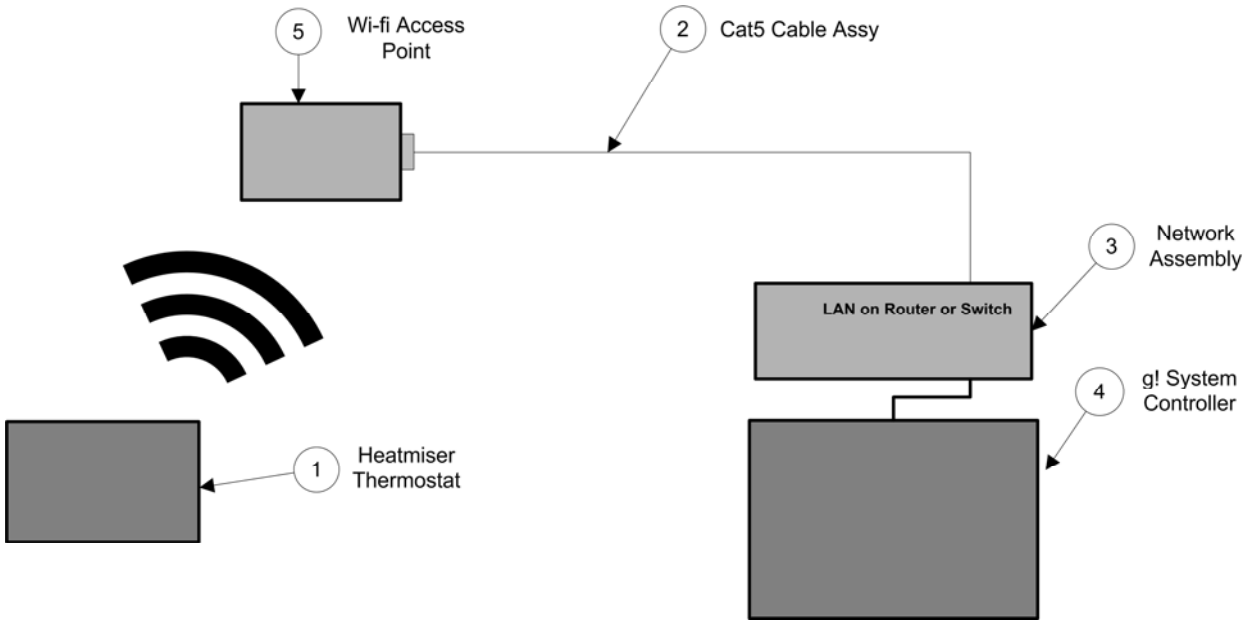
Mode Control: The **g!** system is set up to control Heatmiser modes: Heat, Frost Protect and Off.

Device Discovery: Discovery of connected devices works for both Ethernet and RS485 interfaces.

History View: The history view shows the inside temperature, outside temperature, unit run times, and the current set point.

CONNECTION DIAGRAM: ETHERNET CONTROL

Refer to the **Bill of Materials** and **Wiring Diagram** that follow.

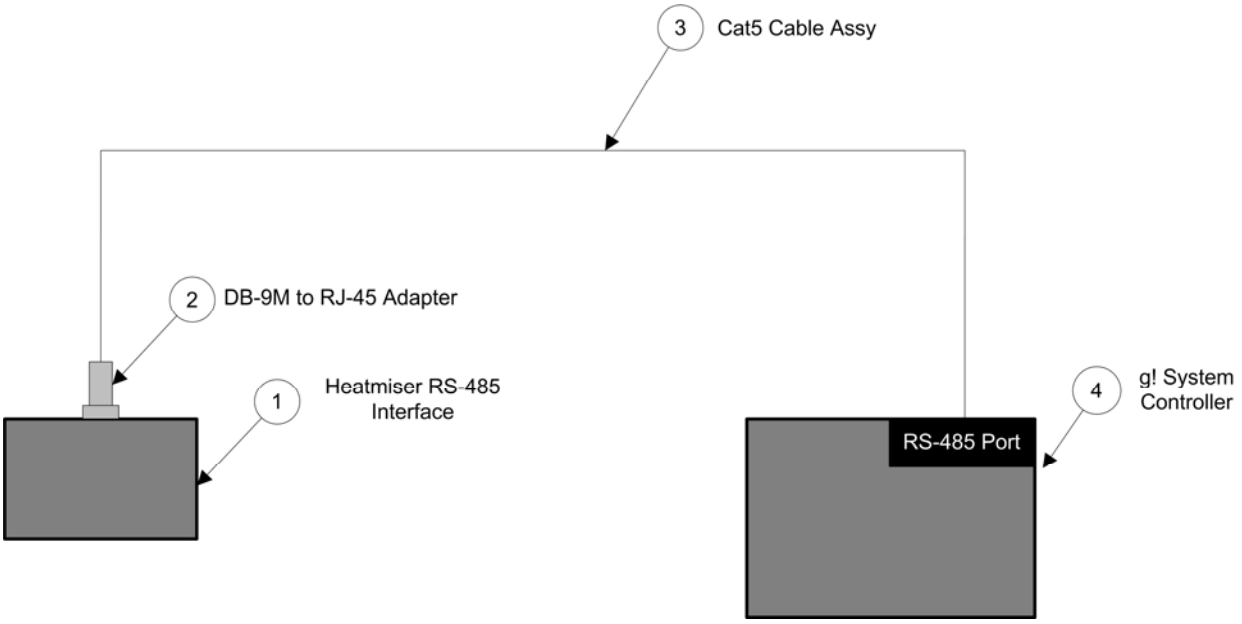


BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Thermostat	Heatmiser	Various (e.g. PRT-ETS)	Ethernet	Wi-fi	
2	Cat5 Cable Assy.	Installer	N/A	Ethernet	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
3	Network Assembly	ELAN	NWA18	Ethernet	RJ-45 Female	
4	g! Controller	ELAN	Various (e.g. HC12)	Ethernet	RJ-45 Female	
5	Wi-fi Access Point	Various	Various	Ethernet	RJ-45 Female	

CONNECTION DIAGRAM: RS-485 CONTROL

Refer to the **Bill of Materials** and **Wiring Diagram** that follow



BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	RS-485 Interface	Heatmiser	Various (e.g. UH1)	RS-485	DB-9 Female	
2	DB-9M to RJ-45 Adapter	ELAN	HA-CB-307	RS-485	DB-9 Male X RJ-45 Female	
3	Cat5 Cable Assy.	Installer	N/A	RS-485	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
4	g! Controller	ELAN	Various (e.g. HC12)	RS-485	RJ-45 Female	

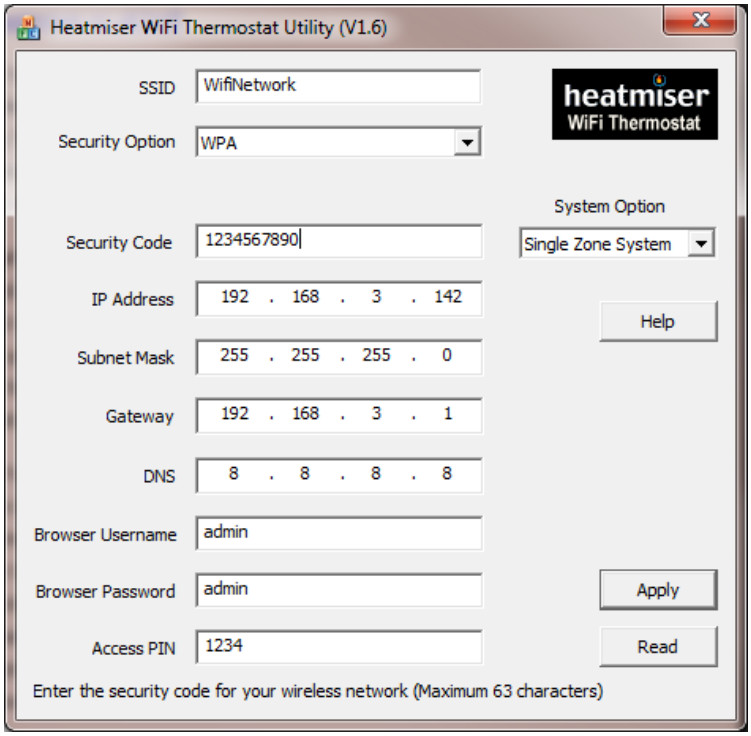
HEATMISER CONFIGURATION OVERVIEW

The Heatmiser thermostats must first be configured to communicate with the **g!** system. A complete guide to Heatmiser programming can be found here: http://www.heatmiser.com/.

Wi-fi Thermostat Set Up

It is necessary for all Wi-fi thermostats to be assigned static IP addresses in the same range as the **g!** Home Controller. To do this, you will need the Heatmiser Wi-fi Thermostat Setup Utility available at: www.heatmiser.co.uk/wifi.

Connect a USB cable between your PC and the Wi-fi thermostat to be configured. Run the Wi-fi Utility:



Enter the static IP details as well as the required information about your Wi-fi network. Click **Apply** when all information is entered. You will be prompted to reboot the thermostat.

Note: the discovery mechanism in g! will begin searching from the lowest static IP address assigned and continue to the end of the end of the range. To speed up this process it is recommended (where freedom of IP address allocation exists) to assign addresses to the thermostats as close to the end of the range as possible.

It is strongly recommended that the Access PIN is left as the default "*1234*". Should you wish to change it, it is recommended that all thermostats are changed to the same value. It is then necessary to append "PIN:xxxx" (where is "xxxx" is your chosen pin) to the end of the **Ethernet Communication Device** name in Configurator.

RS485 Thermostat Set Up

All RS485 thermostats must first be wired correctly into your Heatmiser Zone Wiring Centre. Next an RS485 communication link needs to be established with the **g!** Home Controller. As **g!** systems use RJ45 terminations for RS485 communication, the "Y" and "B" terminals in the zone wiring centre need to be connected using a standard (568B) Cat5 or Cat6 cable, as follows:

Heatmiser	Elan (568B)
B	Green / Orange
Y	White-Green / White-Orange

To clarify, the green and orange cores on the cat5/6 cable must be connected to the "B" terminal, and the white-green and white-orange cores to the "Y" terminal.

Next, each thermostat must be assigned a "Communication ID", which is a unique address, from 1-32. To do this, perform the following steps:

- Press and hold the power button on the thermostat to turn it off.
- Press and hold the clock button to access the settings screen. Two numbers will be displayed; the smaller is the selected feature, the larger number is the setting value.
- Use the clock button to cycle through the features, until number 6 is selected.
- Use the Up/Down keys to change the setting, selecting a different number for each thermostat.
- Press the A key to accept the changes.

The above steps must be repeated on each thermostat until all are assigned unique addresses.

g! CONFIGURATION

Ethernet Set Up

In the Climate tab in Configurator, add an Ethernet communication device, choosing **Heatmiser** from the list. Enter the static IP address of the thermostat with the lowest IP address in the range (for example, if you have 3 thermostats with addresses 192.168.1.100, 192.168.1.101 and 192.168.1.102, enter 192.168.1.100). Click on **Discover Devices** and all thermostats should appear in the list. The discovery mechanism will continue scanning the remainder of the subnet; it is recommended that you allow this scan to complete before continuing. Finally, you must assign each thermostat to the appropriate heating unit.

RS-485 Set Up

In the Climate tab in Configurator, add a Serial communication device, choosing **Heatmiser.** In the **COM Port** field, select the RS485 port to which your Heatmiser system is connected. Click on **Discover Devices** and all connected thermostats should appear in the list. Finally, you must assign each thermostat to the appropriate heating unit.

Manually Adding Devices

Whilst it is recommended that the discovery mechanism is used to add devices, you may wish to manually add thermostats from your Heatmiser system in **g!.** You can do this by right-clicking on **Thermostats**, choosing **Add New Thermostats** and selecting **Heatmiser Thermostat** form the list.

You will need to specify an address for the new thermostat in the **Address** field. If you are using RS485, this will need to be the Communication ID allocated to the thermostat. If you are using Ethernet, this number will be the final octet of the IP address (for example, if the thermostat has an address of 192.168.1.150, choose “150”).

Scheduling

Scheduling can be set up in **g!** to control Heatmiser thermostats in the normal way. The **g!** schedule only supports setpoint adjustment and will only work when the thermostat is in **Heat** mode; **Frost Protect** and **Off** disable scheduling**.** All local scheduling capabilities on the thermostats themselves will be disabled by default.

The concept of “holiday mode” on the thermostats is also disabled, as holiday scheduling is handled by the **Away** schedule in **g!.** Some Heatmiser thermostats have a separate schedule to control hot water, which cannot currently be controlled by **g!**. A recommended workaround for this is to disable hot water scheduling in the thermostat and use a relay output on the **g!** controller to directly control the hot water as a relay device, rather than a climate device.

Some Heatmiser thermostats support timed holds and for these it is possible to initiate or adjust a timed hold either in **g!,** or on the thermostat itself, and the system will remain synchronized. For thermostats that do not support timed holds, the timing is managed entirely within **g!.**

g! CONFIGURATION DETAILS

The following table provides settings used in the **g!** Configurator. Please refer to the Configurator Reference Guide for more details.

- o "<Select from list>" Select the appropriate item from the list (or drop-down) in the Configurator.
- o "<User Defined>", etc. Type in the desired name for the item.
- o "<Auto Detect>", etc. The system will auto detect this variable.

Refer to the **g! System Programming Details** below for additional information.

Devices	Variable Name	Settings (Ethernet)	Settings (Serial)
Communication Devices	**Name**	<User Defined> (Default: **New Device**)	<User Defined> (Default: **New Device**)
	System #	<Auto Detect>	<Auto Detect>
	Device Type	**Ethernet / Heatmiser**	**Serial Port / Heatmiser**
	Enable Sharing	<Select from list>	<Select from list>
	Sharing Port	<Auto Detect>	<Auto Detect>
	IP Address	<User Defined> (Enter address of 1st Heatmiser thermostat)	*Not Applicable*
	Port	<Auto Detect>	*Not Applicable*
	COM Port	*Not Applicable*	<Select from list>
	Protocol	*Not Applicable*	<Auto Detect>
	Baud Rate	*Not Applicable*	<Auto Detect>
	Flow Control	*Not Applicable*	<Auto Detect>
	Parity	*Not Applicable*	<Auto Detect>
	Data Bits	*Not Applicable*	<Auto Detect>
	Stop Bits	*Not Applicable*	<Auto Detect>
Thermostats	**Name**	<User Defined> (Default: <Auto Detect>)	<User Defined> (Default: <Auto Detect>)
	System #	<Auto Detect>	<Auto Detect>
	Device Type	**Heatmiser Thermostat**	**Heatmiser Thermostat**
	Communication Device	<Select from list> (Choose Ethernet Communcation Device)	<Select from list> (Choose Serial Communcation Device)
	Address	<Select from list>	<Select from list>
	Heating Unit	<Select from list>	<Select from list>
	Cooling Unit	<Select from list>	<Select from list>
	Show Usage in History	<Select from list>	<Select from list>
Schedules	**Number of Schedules**	<Select from list>	<Select from list>
	Select House Modes for Schedules	<Select from list>	<Select from list>
	Periods per Day	<Select from list>	<Select from list>
	Number of Weekly Programs	<Select from list>	<Select from list>
	Select Days for each Weekly Program	<Select from list>	<Select from list>
Global Options	**Units**	<Select from list>	<Select from list>
	Temporary Hold Mode	<Select from list>	<Select from list>
	Temporary Hold Default Time	<Select from list>	<Select from list>
	Outside Temperature Sensor	<Select from list>	<Select from list>
	Outside Humidity Sensor	<Select from list>	<Select from list>

COMMON MISTAKES

- No devices are being discovered
    - Check the IP address of the communication device matches the IP address of the first thermostat.
    - If using RS-485, check the wiring of the communications link.