

User Manual

homexpert™
by Honeywell



THR850SUK One Channel 7 Day Timeswitch

50051986-001 Rev. A

WARNING: This product must be correctly installed and configured to work properly (see pages 16-24). If you are not experienced in electrical wiring, we recommend professional installation to avoid possible personal injury or equipment damage.

TIP: After installation, see the QUICK START GUIDE on page 6 to customise and begin using your new timeswitch right away.



Copyright © 2010 Honeywell International Inc.
homexpert™ by Honeywell is a trademark of Honeywell International Inc. All rights reserved.

Contents

About your new timeswitch

What is a programmer?	4
Features	5
QUICK START GUIDE	6
Quick reference to controls	7
Date/time settings	8

Operation and programming

Operating modes	9
Cost-saving programme schedules	10
To adjust programme schedules	11

Special functions

Temporary schedule overrides	12
Extra Hour	13
Holiday mode	14
Advanced features	15

Installation and setup

System installation	16
Wall bracket installation	17-18
System wiring	19-22
Installer setup	23-24

Appendix

Alternate programme schedules	25
In case of difficulty	26
Disposal and recycling	26
Warranty information	27

What is a programmer?

...an explanation for householders

Programmers allow you to set 'On' and 'Off' time periods. Some models switch the central heating and domestic hot water on and off at the same time, while others allow the domestic hot water and heating to come on and go off at different times. Set the 'On' and 'Off' time periods to suit your own lifestyle. On some programmers you must also set whether you want the heating and hot water to run continuously, run under the chosen 'On' and 'Off' heating periods, or be permanently off. The time on the programmer must be correct. Some types have to be adjusted in spring and autumn at the changes between Greenwich Mean Time and British Summer Time. You may be able to temporarily adjust the heating programme, for example, 'Override', 'Advance', or 'Boost'. These are explained in the manufacturer's instructions. The heating will not work if the room thermostat has switched the heating off. And, if you have a hot-water cylinder, the water heating will not work if the cylinder thermostat detects that the hot water has reached the correct temperature.



About your new timeswitch

The THR850SUK is designed to work with your existing thermostat and heating system. It can work automatically, or you can adjust it manually to maintain a comfortable indoor environment while minimising energy use and costs associated with heating your home.

Features

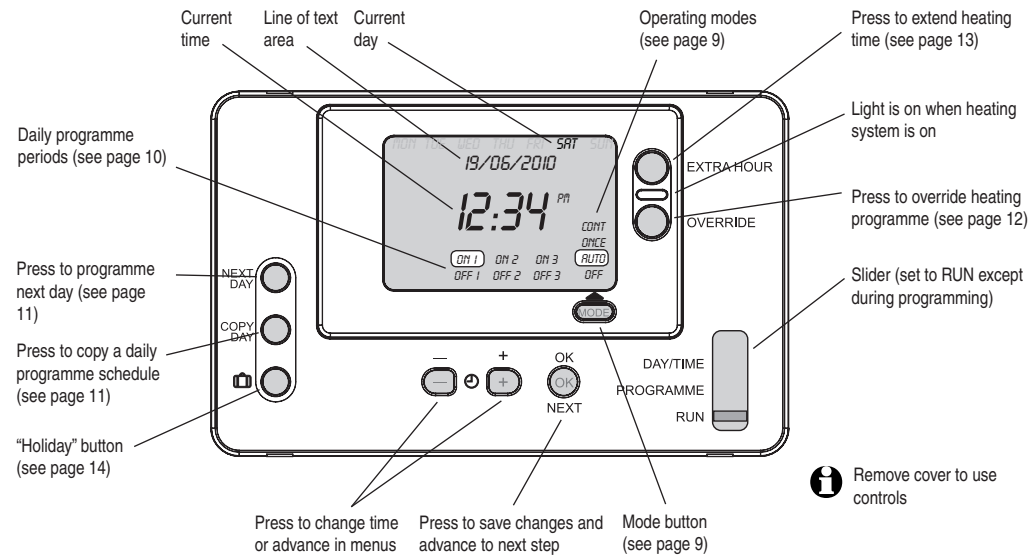
- **Energy-saving design:** Automatically activates or shuts down your heating system up to six times per day to fit your lifestyle while saving energy costs. Each day of the week can be programmed separately (see pages 10-14).
- **One-touch comfort control:** Allows you to override programmed settings at any time by turning your heating system on or off — or by extending an "on" period by up to three hours.
- **Holiday button:** Turns off your heating system for up to 99 days while you are away, then resumes normal operation when you return (see page 14).
- **Seasonal clock change:** Automatically adjusts the clock for seasonal changes in the spring and autumn to adjust for standard time or daylight savings time.
- **Lifetime memory:** Saves your customised settings indefinitely, even if the mains power supply fails.

QUICK START GUIDE

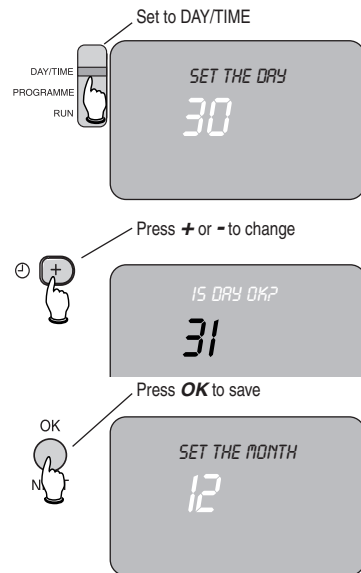
Your new timeswitch is factory set and ready to go. Just check the steps below and change settings if needed:

- 1 Install and set up the timeswitch**
(if this has not been done by a professional installer)..... See pages 16-24
- 2 Check and reset day/time if necessary** See page 8
- 3 Customise heating on/off periods if necessary**..... See pages 10-11

Quick reference



Date/time settings



To change the date or time, set the slider to **DAY/TIME**.

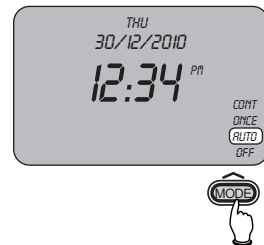
Use the **+** or **-** buttons to set the correct day, then press the **OK** button. Follow the same procedure to set month, year and time.

Date and time are set at the factory and should not need to be changed unless you turn off the automatic daylight savings feature (see pages 23-24).



TIP: While setting the time, press and hold the +/- buttons to change the clock time more rapidly.

Operating modes



Press to change heating system operating mode

Press the **MODE** button repeatedly to select an operating mode:

Cont: Heating system remains on continuously.

Auto: In this mode the timeswitch follows a daily schedule for the heating system, turning it on and off at preset times during the day (see page 10).

Once: In this mode the heating is turned on at the first programmed "On" time of the day, and remains on until the last programmed "Off" time (see page 10).

Off: Heating system remains off at all times.

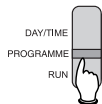
Cost-saving programme schedules

The timeswitch is preset at the factory to turn off your home heating system when it's less likely to be needed. The preset schedule is shown below. To change it, see pages 11-14. (See also two alternate schedules on page 25.)

To run this schedule (as shown below, or as you've modified it), leave the **MODE** button set to Auto (see page 9) and move the slider to **RUN**. You can make temporary adjustments at any time (without changing the schedule) by pressing the **EXTRA HOUR** or **OVERRIDE** buttons (see pages 12-13).

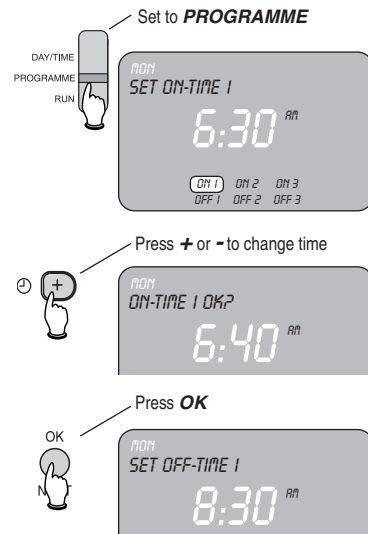
Default
on/off times
(Schedule A)

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	6:30am	8:30am	12:00pm	1:00pm	4:30pm	10:30pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm



TIP: To review your schedule quickly, move the slider to **PROGRAMME**, then press the **OK** button repeatedly to see each on/off time period.

To adjust programme schedules



To programme the heating system schedule:

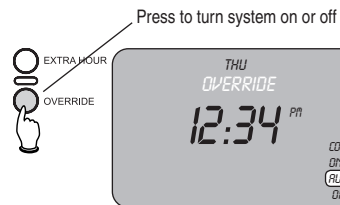
- 1 Move slider to **PROGRAMME**, then press **+** or **-** to adjust the "On" time for Period 1 as shown at left.
- 2 Press **OK** to save, then press **+** or **-** to adjust the "Off" time for Period 1. Repeat for all time periods.
- 3 After all Monday time periods are set, press the **NEXT DAY** button to adjust settings for Tuesday. Repeat for all other days.

To stop programming at any time, move slider to **RUN**.

SHORTCUT: While programming, press the **COPY DAY** button to copy settings for the current day and apply them to other days. For example, you can apply Monday settings to other days of the week. After copying, press the **NEXT DAY** button to select a target day, then press **OK**.

TIP: To delete an unwanted time period, set identical times for the "On" and "Off" periods.

Temporary schedule overrides



The **OVERRIDE** button works like a simple “on/off” switch. If you press the button when the system is on, it will turn off. If off, it will turn on.

This button works only when the **MODE** is set to Auto or Once (see page 9).

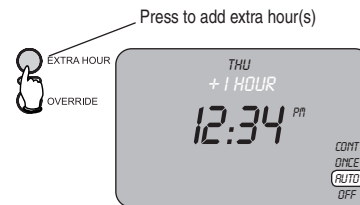
This change is temporary. It does not change the daily programme schedule, which will resume at the next programmed “On” or “Off” time period.

Green light shows system status (on or off)



NOTE: See also temporary overrides for extra hours or holidays (see pages 13-14).

Temporary schedule overrides — Extra Hour



The **EXTRA HOUR** button can extend the current heating period for 1 to 3 hours more, or switch on the heating for a short period of time. For example, if you expect guests you may want heating on for longer than usual.

Press **EXTRA HOUR** once or more to extend heating times. This button works only when the **MODE** is set to Off, Auto or Once (see page 9).

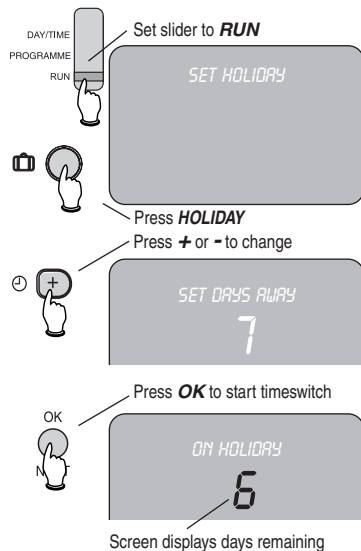
This change is temporary. It does not change the daily programme schedule, which will resume after the number of hours you choose (1 to 3 hours).

Green light shows system status (on or off)



NOTE: See also temporary overrides for holidays (see page 14.).

Temporary schedule overrides — Holiday



The Holiday feature turns off your heating while you are away for an extended time (up to 99 days). After the designated time the system resumes normal operation.

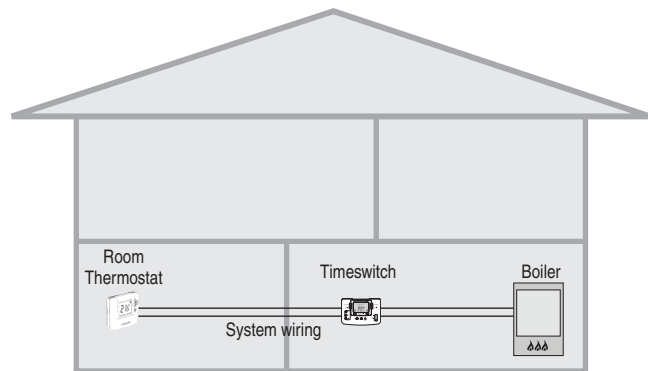
- 1 With slider set to **RUN**, press the **HOLIDAY** button.
- 2 Press **+** or **-** to select the number of days you will be away (up to 99 days), then press **OK** to save and exit. The display shows the date you will return and counts down the number of holiday days remaining.

To cancel the Holiday mode at any time, press **HOLIDAY** again.

Advanced features

- **Preset programme schedules:** The timeswitch is preset to follow the schedule shown on page 10 (Schedule A) unless you change the settings. However, instead of changing the settings manually, you can choose either of 2 other pre-configured schedules. Schedule B keeps heat on longer if you're often at home. Schedule C keeps heat off longer to reduce energy costs. (See page 25.)
- **Adjustable time settings:** By default, the timeswitch has 6 time settings per day (3 periods on, 3 periods off). You can reduce this to 4 time settings if desired. (See page 24.)
- **Seasonal time change:** The clock automatically changes in spring and autumn to correspond with changes to and from daylight savings time. (See page 24 to turn off this feature.)
- **Adjustable clock format:** The screen can display time in either AM/PM format (i.e., 2 pm) or 24-hour format (14:00). (See page 24.)
- **Adjustable backlight:** A bright continuous backlight makes the display screen easier to read. You can change its operation so the backlight always remains off or is lit for only a few seconds after each button press. (See page 24.)

System installation



Installation procedure

- 1 Disconnect electrical power
- 2 Install timeswitch
- 3 Connect system wiring
- 4 Restore electrical power
- 5 Configure system operation

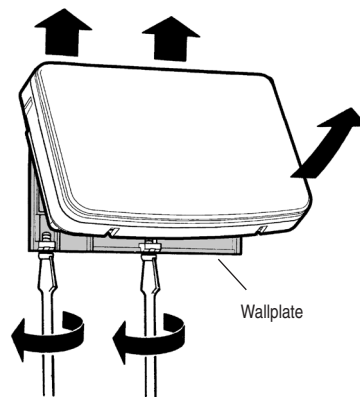


NOTE: If you are not experienced in equipment installation and electrical wiring, we recommend that these procedures be done by a professional installer.



DISCONNECT ELECTRIC POWER BEFORE INSTALLATION: Can cause electrical shock or equipment damage.

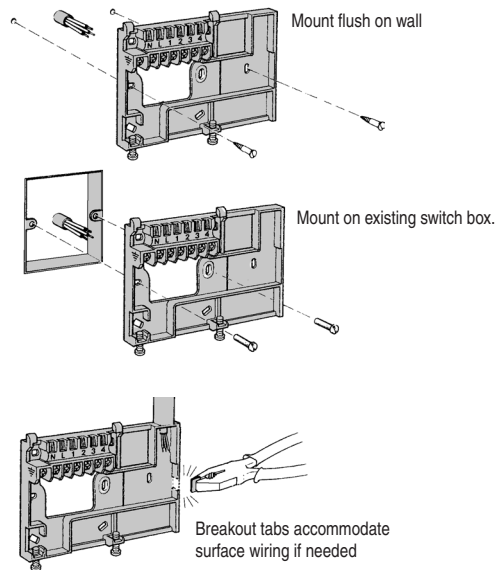
Wall bracket installation



Use a screwdriver to loosen screws and separate the timeswitch from the wall bracket as shown at left.

Select a mounting location about 1.2 to 1.5 metres from the floor where the display can be seen clearly, in an area where the ambient temperature is between 0 and 40° C. Install the wall bracket as shown on page 18. Leave a minimum of 110 mm clear space above and below the wall bracket, and at least 10 mm space on either side.

Mounting options

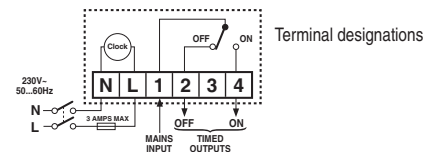
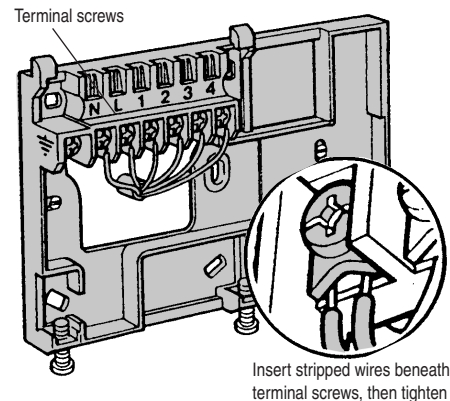


Use appropriate wood screws or anchor screws to mount the wall bracket flush against the wall. Use metal screws to mount on an existing junction box.

Pull wiring through the wall bracket and connect to screw terminals as shown on page 19.

- 1 Make sure electrical power is off.**
- 2** Install wall bracket as shown at left.
- 3** Connect system wiring as shown on pages 19-22, then replace timeswitch on wall bracket and secure with screws.

Connect system wiring



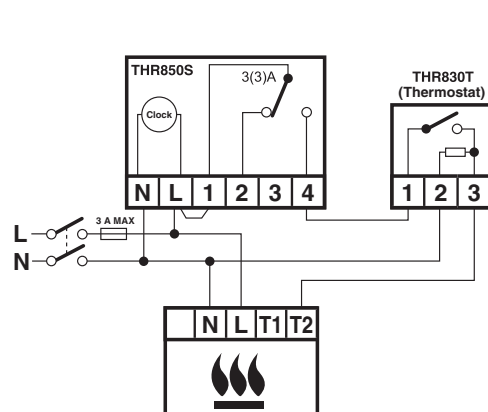
Connect wiring from your heating system to the timeswitch terminal screws as shown at left. See wiring diagrams on pages 20-22 for details.

- 1 Make sure electrical power is off.**
- 2** Strip insulation to expose about 7 mm of bare wire.
- 3** Use a screwdriver to loosen terminal screws, insert wires beneath terminal clamp, then tighten securing screws.
- 4** Replace timeswitch on wall bracket, tighten screws, then restore electrical power.

i NOTES: 1. All wiring must comply with IEE regulations. Keep AC mains supply/load cables separate from equipment wiring.
2. This unit is for fixed wiring only.
3. A switch with a minimum contact separation of 3mm in all poles must be incorporated in the fixed wiring as way to disconnect the supply.
4. Install a fuse rated at no more than 3 Amps.

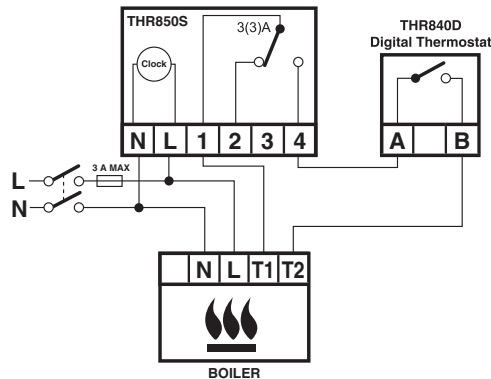
Wiring diagrams - Wired thermostats, combi boiler

230 Vac connection



Note 1: If normal mains voltage is required, link terminals L and 1.

Potential-free connection

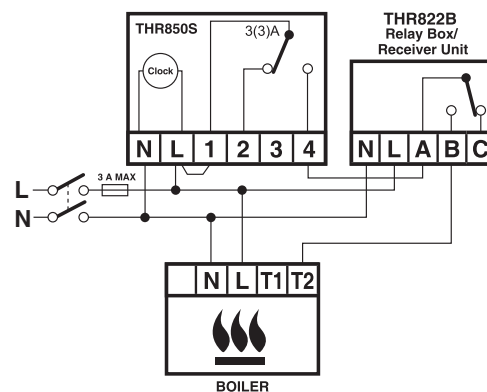


Note 2: This is a Class II device (i.e., double insulated). A parking terminal is available for earth wiring if required.

Wiring diagrams - Wireless thermostats, combi boiler

Connections are shown below for the THR822B Relay Box (supplied with a THR842D wireless thermostat.)

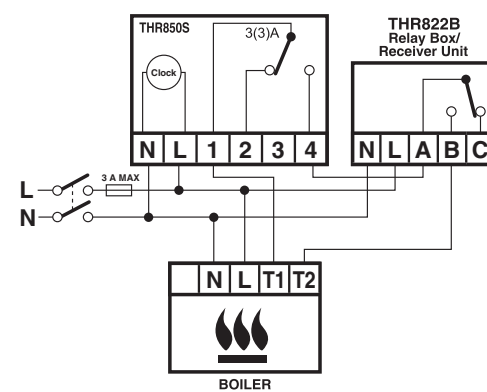
230 Vac connection



Note 1: When connecting to a wireless relay box/receiver unit, the receiver MUST have permanent mains power from the fused spur to operate correctly.

Note 2: If normal mains voltage is required, link terminals L and 1.

Potential-free connection



Note 3: This is a Class II device (i.e., double insulated). A parking terminal is available for earth wiring if required.

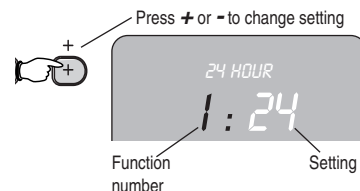
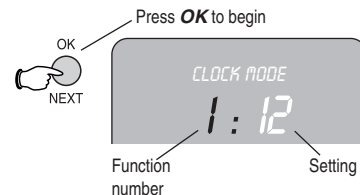
Replacement wiring

If you are using the THR850S to replace other Honeywell timeswitches, the equivalent wiring terminations are shown below.

THR850S terminals	N	L	1	2	4
ST6100A, ST6100C	N	L	1	2	4
ST9100A, ST9100C	N	L	1	2	4
ST7000B*	-	L	-	2	3

* If you are replacing the ST7000B, a permanent mains supply must be provided for the THR850S timeswitch, and terminal L must be linked to terminal 1.

Installer setup



Installer settings allow you to customise how your system works. Check the table on page 24 to see if any settings need to be changed.

To change installer settings:

- 1 Set slider to **RUN**.
- 2 Press and hold the **OK** and **-** buttons together until the screen displays "Set Installer OK?" Press **OK** to enter installer setup mode and continue.
- 3 Press **OK** repeatedly to scroll through functions until you find one you want to change (see list on page 24).
- 4 Press the **+** or **-** buttons to change any setting, then press **OK** to save the new setting and advance to the next function.

To exit installer setup at any time, move the slider switch up, then back down to the **RUN** position.

See table on page 24 for
complete list of functions and settings

Installer setup functions and settings

** Factory default setting

Function	Description	Setting Options
1	Clock format	12: AM/PM 12-hour time format ** 24: 24-hour time format
2	Screen backlight	0: Always off 1: Screen lit when button is pressed 2: Always on **
3	Summer/winter time change	0: No change 1: Seasonal switch to/from daylight savings time **
4	1 day or 5/2 day or 7 day operation	1: 1 day operation 5: 5/2 day operation 7: 7 day operation **
5	Daily time periods	2: 2 on, 2 off time periods per day 3: 3 on, 3 off time periods per day **
6	Preset time schedules	A: Standard (see page 10). ** B: More comfort (see page 25) C: More economy (see page 25)
8	Reset all settings	0: Do not reset ** 1: Reset to factory default settings

See page 23 to change these settings. **Always press OK** after changing any setting.

Alternate programme schedules

In addition to the default programme schedule shown on page 10, you can set the system to run either of the schedules shown below. Either schedule can be changed as described on pages 11-14.

**Schedule B
(Comfort)**

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm

**Schedule C
(Economy)**

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	6:30am	7:30am	12:00pm	12:00pm	5:00pm	10:00pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
	8:30am	9:30am	12:00pm	1:00pm	5:30pm	10:30pm

In case of difficulty

Timeswitch screen is blank	Check the heating system to make sure the timeswitch has electrical power.
Radiators are cold	- Check the timeswitch to make sure heating is set to be on. The indicator light should be lit. - Make sure the room thermostat is switched on and set to an appropriate temperature level. - Check to ensure the boiler is operational. - Check wiring (pages 19-22) and system configuration (pages 23-24).

Disposal and recycling

Batteries and waste electrical products should not be disposed of with household waste. Please recycle where these facilities exist. Check with your local authority or retailer for recycling advice.

Please retain these instructions for future reference.

Limited Warranty

Honeywell warrants this product for 1 year from date of purchase. We undertake to replace or repair at our discretion, products should they become defective within 1 year solely as a result of faulty materials and or workmanship.

Understandably if the product has not been installed or maintained in accordance with Honeywell's instructions, has not been used appropriately or if any attempt has been made to rectify, dismantle or alter the product in any way the warranty will be invalidated.

This product warranty states Honeywell's entire liability. It does not extend to cover consequential loss or damage or installation costs arising from a defective product.

If the product is defective, please return it together with a proof of purchase or receipt to the place of purchase.

This does not affect your statutory rights.

If you require further information about this product, call the homexpert™ by Honeywell technical helpline on 0845 604 2893.

For a full list of terms and conditions please visit www.homexpertbyhoneywell.com.

© 2010 Honeywell International Inc.

Need Help?

For assistance with this product please visit www.homexpertbyhoneywell.com, or call Honeywell Customer Care at 0845 604 2893.



Honeywell

The Arnold Centre
Paycocke Road
Basildon, Essex
SS14 3EA

Technical Help Desk: 0845 604 2893
www.homexpertbyhoneywell.com

homexpert™
by Honeywell

50051986-001 Rev. A
© 2010 Honeywell International Inc