CM67
CHRONOTHERM

The *CM67* Chronotherm is designed to provide automatic time and temperature control of heating or cooling systems in villas and apartments. It can be used as part of a system in conjunction with combi boilers, oil- burners and gas fired boilers, circulation pumps, thermal actuators, zone valves and electric heat systems (<8A).
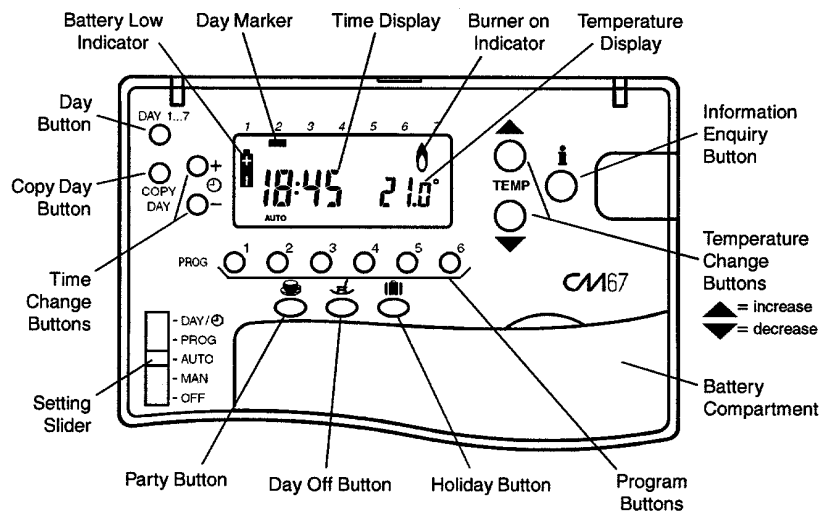
The *CM67* is designed with the installer in mind and includes a moulded backplate with trunking guides and wiring breakouts to make installation quick and easy.

The *CM67* display, buttons and slider layout are based on the same simple programming philosophy used on the acclaimed CM51 product. The unit is ideal for consumers who want reliable precise temperature control from a simple to program easy to use product.

FEATURES

- **Attractive slim styling makes it ideal for location in any home.**

- **7-day program**

- **6 daily independent time and temperature level changes let you set 6 time and temperatures pairs to suit your life style.**

- **Temporary programmed temperature override to temporarily override the programmed temperature till the next switch point.**

- **☕ Party button to temporarily maintain (or adjust) the current temperature for 1-23 hours.**

- **⏏ Day Off button copies Sunday's program into tomorrow or today to allow a rest day program without having to re-program the *CM67*.**

- **📖 Holiday button provides energy savings by reducing the temperature for 1 to 99 days when people are on holiday, returning to normal operation (AUTO or MANUAL) on the day of return.**

- **EEPROM memory holds the user program indefinitely.**

- **Telephone Interface (optional) can be fitted to the *CM67* to allow switching between programmed mode (slider position) and fixed set-point of 21 ^{o}C.**

- **24...230V 8A resistive, 3A inductive SPDT relay provides compatibility with most domestic central heating systems without stocking many different models.**

- **Surface or wallbox mounting options, trunking guides and wiring breakouts simplify installation.**

- **OFF position on the slider has an integral fixed frost protection setting at minimum of 5ºC (installer adjustable) so that pipes in the house will never freeze in winter.**

- **Installer Set-Up Mode allows extra functions to be set at the discretion of the installer to match the consumers applications :**

  - **Optimisation**
  - **Pump Exercise**
  - **Upper / Lower Setpoint Limit Adjust**
  - **Temperature offset**
  - **Minimum ON time**
  - **Cycle rate**
  - **Heat / Cool Operation**
  - **Proportional Band Width**

- **_CM67_ has provision for add-on modules to allow the installer to sell additional features during or after the first *CM67* installation, giving the installer an additional sale.**

- **Outside Temperature Sensor accessory (optional) can be fitted to the *CM67* to display the external temperature.**

- **Remote Temperature Sensor (optional) can be fitted to the *CM67* to control the temperature from another room.**

CM67 CONTROLS/DISPLAY LAYOUT

SPECIFICATIONS

Batteries	: 2 x 1.5 V IEC LR6 (AA) Alkaline cells	Temperature control accuracy	: ±0.5 K (nominal) @ 20°C, 50% load 3 K Δ/hour
Battery life	: 4 years typical (Duracell MN1500) for applications with loads <3A	Room Temperature display range	: From 0°C to 40°C
	: 3 years typical for electric heat applications (>3A, <8A)	Control form	: P + I (Proportional + Integral)
Battery replacement	: Program retained in EEPROM	Minimum ON time	: 10% of cycle time (min one minute), adjustable to 2 to 5 min (see installer set up)
Switch type	: SPDT (potential free)		
Electrical rating	: 230 V~, 50...60 Hz, 0.5 A to 8 A resistive 0.5 A to 3 A inductive (0.6 pf) 24 V~, 50...60 Hz, 0.5 A to 8 A resistive 0.5 A to 3 A inductive (0.6 pf)	Cycle rate	: 3, 6(default), 9, 12. Selectable through the installer set up mode.
		Wiring	: Terminal block capable of accepting wires up to 2.5 mm^2
Time display	: 24 hour or 12 hour AM/PM format	Wire access	: Mains wiring - rear, left or below Low voltage wiring - rear, left or below
Time keeping accuracy	: Typically better than 10 minutes per year		
Program	: 7-day with 6 daily time and temperature level changes	Dimensions	: 130 x 87R(82L) x 29 mm (w x h x d) 130 x 172 x 29 mm (w x h x d) (flap open)
Time setting resolution	: Time of day - 1 minute Program - 10 minute steps	Environmental	: Operating temperature range 0 to 40°C Shipping and storage temperature range -20 to 55°C Humidity range 0 to 90% rh, non-condensing
Sensing element	: 100K (@ 25 °C) NTC thermistor		
Temperature setting range	: Program : 5 to 30°C in 0.5 °C steps Frost : 5 °C or equal to lower limit (5 °C to 16 °C). Frost protection does not work in cooling mode	Approvals	: Designed to meet European EN approvals EN60730-1(1995), EN55014-1 (1997), EN55014-2 (1996)

INSTALLER SET-UP

To enter the installer set-up mode :

a) Set the program slider to **OFF.**

b) Press and hold Info **i** button and press **PROG 3,4** together.

c) The unit will display the first parameter of the installer parameter group category 1 (from n.1 to n.5).

d) Press **TEMP** ▲ or ▼ to change factory setting. The display will flash indicating that a change has been made.

e) Press **INFO i** button to confirm the change. The display will stop flashing.

f) Press ⏱ + or - to go to next parameter.

g) Press **PROG 2** button to go to Installer parameter group category 2 (from parameter n.6 to parameter n.16).

h) To exit installer mode move the slider in **MAN** or **AUTO** position.
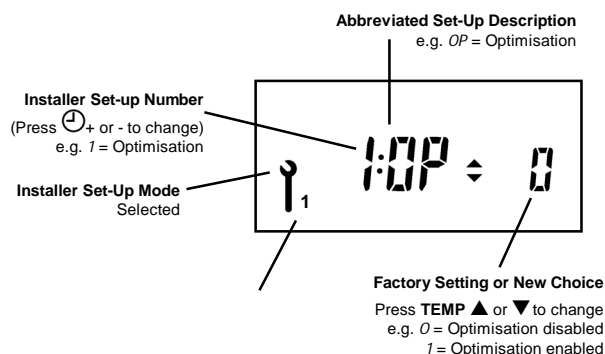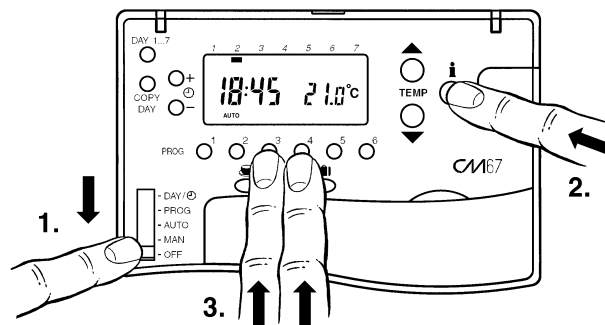
In Installer set up we can :

❑ Set-up specific applications

❑ Enable special features

❑ Establish support for Optional Accessories

| Specific Applications		Setting		What do you need to change ?
		Cycle/ Hour	Minimum ON time (in minutes)	**Note :** a. To change Cycle/Hour, please go to parameter n. 9 in the installer set-up mode. b. To change Minimum ON Time, please go to parameter n. 2 in the installer set-up mode.
Heating	Gas Boilers (<30KW)	6	1	No action required
	Oil Boiler	3	4	1. Set Minimum ON Time to 4 minutes. 2. Set Cycle/Hour to 3.
	Thermal Actuator	12	1	Set Cycle/Hour to 12.
	Zone valve	6	1	No action required.
	Electric heating (for applications <8A)	12	1	1. Configure the Chronotherm for electric heating (set parameter n.7 in the installer set up mode to 1). 2. Set Cycle/Hour to 12.
Air conditioning				1. For cooling application only, set the Chronotherm to cooling (set parameter n.6 in the installer set-up mode to 0) 2. For heat/ cool application, set the Chronotherm accordingly to required mode of operation winter = heating summer = cooling by changing parameter n.6 in the installer set-up mode. Explain to the end-user how to implement the change-over.
	Heat Pump/ Air conditioner	3	4	1. Set Minimum ON Time to 4 minutes . 2. Set Cycle/Hour to 3.

Abbreviated Set-Up Description
e.g. *OP* = Optimisation

Installer Set-up Number
(Press ⏱ + or - to change)
e.g. *1* = Optimisation

Installer Set-Up Mode
Selected

Factory Setting or New Choice
Press **TEMP** ▲ or ▼ to change
e.g. *0* = Optimisation disabled
1 = Optimisation enabled

Special Features	Description	What to do if we wish this feature
Optimisation (Variable Start Time) *Adaptive Intelligence recovery TM*	The Chronotherm will adjust the start time in the morning/ afternoon so the desired temperature is reached by the start of the program period e.g. Time 7:00, Temp 21 ^{o}C. The Chronotherm will monitor the accuracy of the start up and use this information to modify the calculation for the following day by changing the ramp rate (initial 3 K/hr) .The system will restrict the start time to a max of 3 hours. Optimisation will not work in cooling mode.	Set parameter. 1 in the installer set-up mode to 1.
AM-PM/ 24hr Display	Change display format (default 24hr)	Set parameter n.3 in the installer set -up mode to 1.
Pump exercise	When enabled the Pump Exercise will switch the relay on for 1 minute at 12:00 if the relay has not been switched on since 12:00 the previous day. While in Holiday mode the Pump Exercise feature, if enabled, will operate.	Set parameter n.8 in the installer set -up mode to 1.
Upper Temperature Limit	The normal upper temperature limit of 30 ^{o}C can be reduced down to 21 ^{o}C to save energy. Useful for small commercial premises.	Set parameter n.11 in the installer set -up mode to the desired limit.
Lower Temperature Limit	The normal lower temperature limit of 5 ^{o}C can be increased up to 16 ^{o}C to protect the inhabitants from cold. Useful if the inhabitants include the elderly, children or disabled.	Set parameter n.12 in the installer set -up mode to the desired limit.
Temperature Offset	If the Chronotherm is located in a hot/cold location and cannot be moved because of wiring then the measured/ displayed temperature can be adjusted by +/- 3 ^{o}C. Useful if the homeowner wants the reading to match another appliance temperature display.	Set parameter n.13 in the installer set -up mode to the desired offset value.
Proportional Band Width	Can be adjusted up to 3 ^{o}C (default is 1.5 ^{o}C) to provide better temperature control (less overshoot). Useful for: a. Well insulated homes with over-sized heating systems b. Air systems with fast response	Set parameter n.15 in the installer set -up mode to the desired value.

Optional Accessories	Description	What to do if we wish this feature
Outside Temperature Sensor	An Outside Temperature Sensor can be fitted to your *CM67* to allow the homeowner to display the outside temperate on the Chronotherm display by using the INFO **i** button. *CM67* will read the outside temperature every 10 minutes. Outside temperature display range is from -30 ^{o}C to +45 ^{o}C. The sensor can be connected up to 50 meters from the unit.	1. Fit the sensor (instructions included in the sensor package) 2. Set parameter n. 10 in the installer set-up mode to 1
Remote Temperature Sensor	A Remote Temperature Sensor can be fitted to your *CM67* to allow the Chronotherm to control temperature from another room or space where it is inconvenient to locate the *CM67*. It will read the remote sensor every 1 minute. The sensor can be connected up to 50 meters from the unit. Useful for commercial premises where the public may tamper with the product.	1. Fit the sensor (instructions included in the sensor package) 2. Set parameter n. 10 in the installer set-up mode to 2
Automatic Time Setting (ATS) Module	The ATS module picks up a time signal daily from a European transmitter, so you never need to set or adjust the time.	1. Fit the ATS module 2. Set parameter n. 4 in the installer set-up mode to 1

| Parameter	Installer Set-Up Number / Abbreviation (Press + or - key to change)	Factory Setting		Optional Setting		Installer Set-Up Category (Press keys PROG 1 or 2 to select) 1 2
		Display	Description	Display/Setting	Description	
Optimisation	1:OP	0	Optimisation disabled	1	Optimisation enabled	1
Minimum ON Time	2:0t	1	1 minute minimum ON time	2 to 5	2 - 2 minutes 3 - 3 minutes 4 - 4 minutes 5 - 5 minutes	1
AM-PM / 24hr Display	3:Cl	0	24 hr clock display	1	12 hr AM / PM clock display	1
Accessory Module Type	4:At	0	No accessory module plugged in	1, 2	1 - Auto Time Setting Module 2 - Weatherstation Module	1
RESET Time / Temperature Program	5:rP	1	Time / Temperature profile set to factory default Changes to 0 when one of the time/temp profiles are changed	0 1	Time / Temperature are as programmed To restore the factory profile set to 1	1

You must now press the PROG 2 key to enter the next section

Parameter	Installer Set-Up Number / Abbreviation	Factory Setting		Optional Setting		Installer Set-Up Category
Heat / Cool Operation	6:HC	1	Heating Operation	0	Cooling Operation	2
Electric Heat	7:Eh	0	Applications < 3A	1	Applications 3 - 8A	2
Pump Exercise	8:PE	0	Pump Exercise Disabled	1	Pump Exercise Enabled	2
Cycle Rate	9:Cr	6	6 cycles per hour (cph) for gas boilers, zone valves and fan-coil	3, 9, 12	3 - 3 cph 9 - 9cph 12 - 12 cph	2
Second Temperature Sensor	10:SS	0	No sensor fitted	1, 2	1 - Outside Temperature Sensor fitted 2 - Remote Temp. Sensor fitted	2
Upper Temperature Limit	11:UL	30	30°C Upper Temp. Limit	21 to 29	21°C to 29°C adjustment in 1°C steps	2
Lower Temperature Limit	12:LL	5	5°C Lower Temp. Limit	6 to 16	6°C to 16°C adjustment in 1°C steps	2
Temperature Offset	13:tO	0	No offset	-3 to +3	-3°C to +3°C adjustment in 0.1°C steps	2
Pressure Offset (needed for Weatherstation accessory only)	14:PO	0	No offset	-99 to +3	-99 mbar to +99 mbar adjustment in 1 mbar steps	2
Proportional Band Width	15:Pb	1.5	1.5°C Proportional Band	1.6 to 3.0	1.6°C to 3.0°C adjustment in 0.1°C steps	2
Return all Set-Up Features to Factory Settings	16:FS	1	All settings held are the factory defaults. Changes to 0 when one of the parameter values are changed	0 1	Settings are as modified above To restore the factory profile set to 1	2

DIMENSIONS
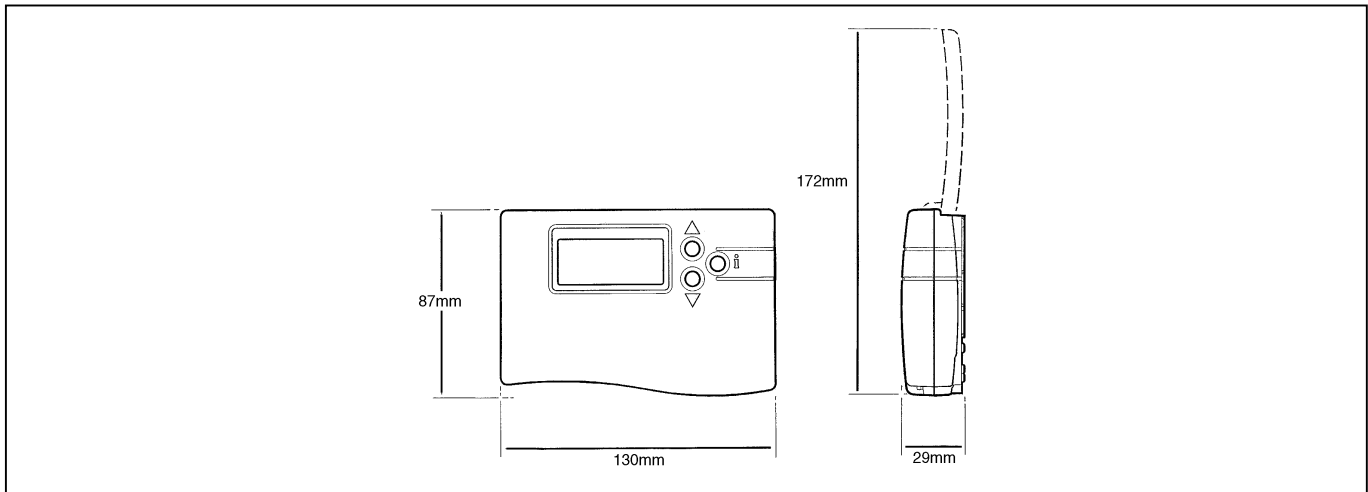
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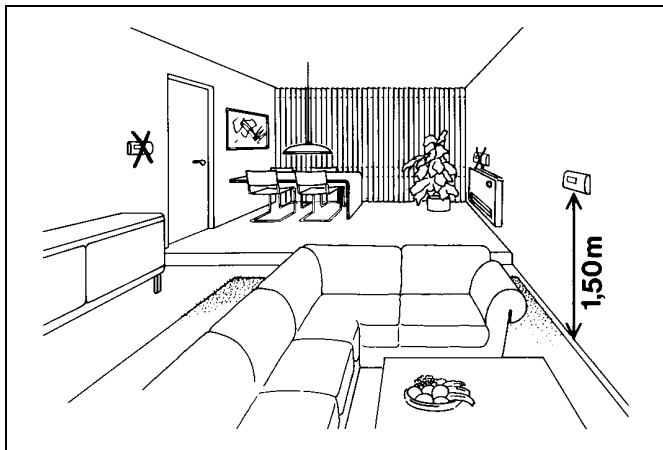
LOCATION

The *CM67* Chronotherm is the temperature control element in the heating/cooling system and MUST be located in a position with good air circulation at average room temperature on an inside wall 1.5 metres above the floor level. Do not position the *CM67* Chronotherm near sources of heat (radiators, hot air vents, TV or lights), near doors or windows, or in direct sunlight.

MOUNTING

The *CM67* Chronotherm can be mounted directly on the wall surface or on an electrical wallbox.


WIRING

The *CM67* Chronotherm is designed for fixed wiring only and must be installed in accordance with latest I.E.E. regulations. Ensure the wiring connection to the supply is via a fuse rated at no more than 8 amps and a Class "A" switch (having contact separation of at least 3 mm in all poles).

IMPORTANT

1. *The installer must be a trained service engineer*
2. *Disconnect the power supply before beginning installation*
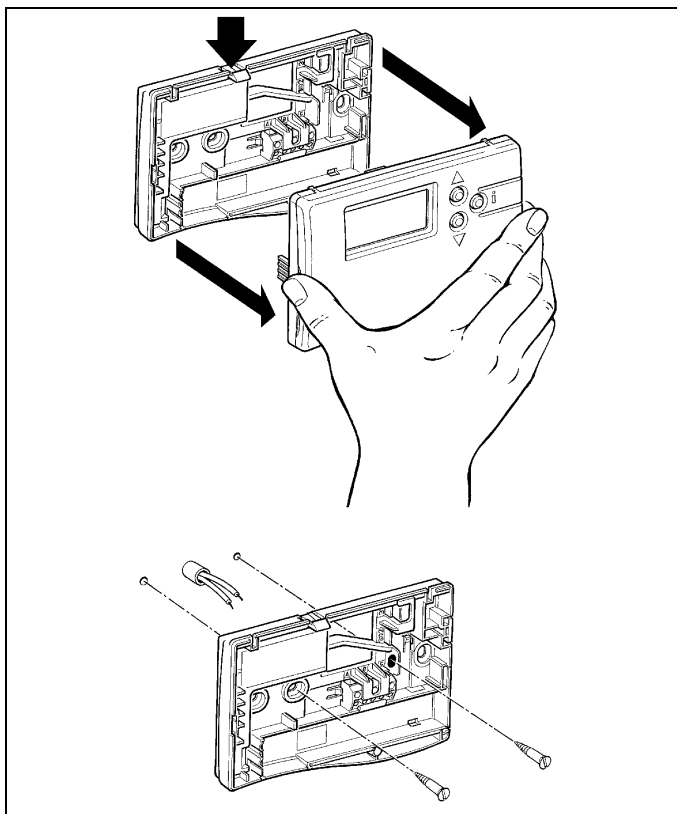
WIRING
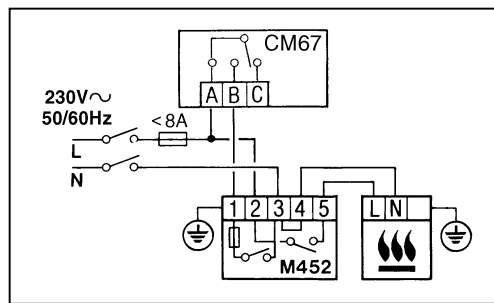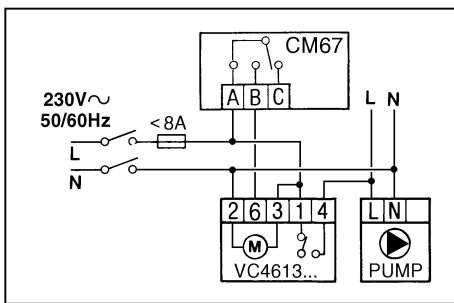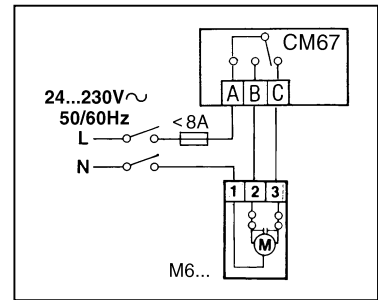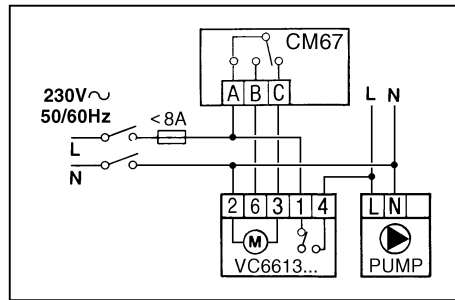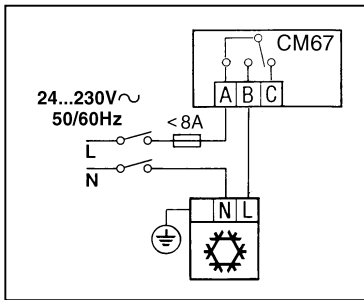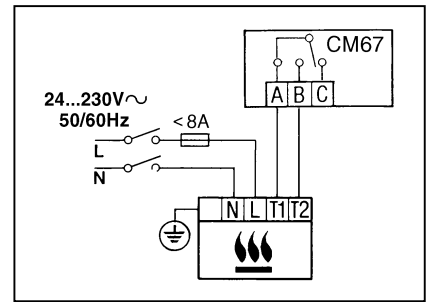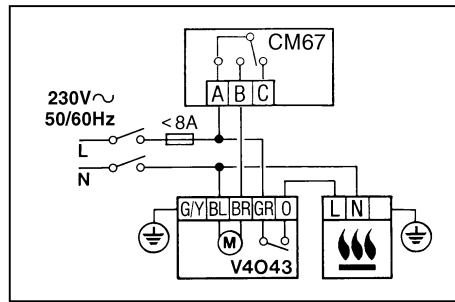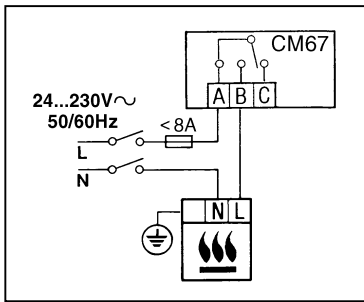
ORDERING SPECIFICATION

Description	Model	Logo	Literature	Spec Sheet
7-day programmable thermostat	T6667B1002	Honeywell	English	ENOR8498
Remote sensor	T7043G1004	Honeywell	Multi-Language	ENOR8496
Outside temp sensor	F42009537-001		Multi-Language	ENOR8495
Automatic Time Setting Module Europe	Q6667B1007		Multi-Language	ENOR8501

NOTE: The model shown opposite can be ordered as samples to establish the exact customisation requirements

Honeywell