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You can read the recommendations in the user guide, the technical guide or the installation guide for HONEYWELL DT90. You'll find the answers to all your questions on the HONEYWELL DT90 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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Honeywell

DT90 DIGITAL ROOM THERMOSTAT

PRODUCT SPECIFICATION SHEET



The new DT90 family of digital room thermostats is a range of market leading products designed to provide control with economy in modern heating systems. Its large display and simple button interface make DT90 extremely easy to use.

Energy efficiency is addressed by state-of-the-art TPI control performance and an ECO button energy saving feature.

Applications include control of gas or oil-fired boiler systems, underfloor heating, electric heating and zoning systems.

With a modern fresh look that complements any style of décor, and a range of valued features for users and installers alike, DT90 sets the standard for simple environmentally-friendly room thermostats.

FEATURES

- Energy saving TPI control performance
- Advanced self-learning control adapts to the environment and ensures close temperature control with minimum energy usage
- Slim modern styling
- Large high contrast display with easy-to-read characters
- Simple user interface
- Temperature setting procedure eliminates the risk of accidental setpoint change
- Display shows room temperature, with option to inquire about setpoint
- 5°C to 35°C setpoint range with 0.5°C increments
- Temperature set using up or down buttons
- Off/standby button, allowing manual switch off, with frost protection active
- Adjustable off/standby setpoint 5°C to 16°C or DT90 can be set to off completely
- Battery powered by 2 x AA (LR6) alkaline cells
- Up to 4 years battery life (minimum 2 years), with battery low warning
- Simple battery change by unclipping front cover
- Installer Mode allows the thermostat to be customised for the application and the needs of the user
- NVRAM storage of setup parameters, ensuring these are never lost
- Setpoint limits can be programmed in
- 24...230Vac SPDT potential-free contacts for simple 2-wire installation
- 8 A resistive, 3 A inductive switch rating
- Surface or switch-box mounting options
- Sens or fault self-diagnostics
- Heat/cool changeover operation mode possible

FEATURES UNIQUE TO DT90E ECO MODEL

- Energy saving ECO button allows user to change to a lower, energy saving setpoint for a time period of their choosing (1...24 hours)
- Display shows countdown of time remaining in ECO energy saving mode

EN01 8578 UK07 R1 12/08



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Manual abstract:

Its large display and simple button interface make DT90 extremely easy to use. Energy efficiency is addressed by state-of-the-art TPI control performance and an ECO button energy saving feature. Applications include control of gas or oil-fired boiler systems, underfloor heating, electric heating and zoning systems. With a modern fresh look that complements any style of décor, and a range of valued features for users and installers alike, DT90 sets the standard for simple environmentally-friendly room thermostats. FEATURES Energy saving TPI control performance Advanced self-learning control adapts to the environment and ensures close temperature control with minimum energy usage Slim modern styling Large high contrast display with easy-to-read characters Simple user interface Temperature setting procedure eliminates the risk of accidental setpoint change Display shows room temperature, with option to inquire about setpoint 5°C to 35°C setpoint range with 0.5°C increments Temperature set using up or down buttons Off/standby button, allowing manual switch off, with frost protection active Adjustable off/standby setpoint 5°C to 16°C or DT90 can be set to off completely Battery powered by 2 x AA (LR6) alkaline cells Up to 4 years battery life (minimum 2 years), with battery low warning FEATURES UNIQUE TO DT90E ECO MODEL Simple battery change by unclipping front cover Installer Mode allows the thermostat to be customised for the application and the needs of the user NVRAM storage of setup parameters, ensuring these are never lost Setpoint limits can be programmed in 24...230Vac SPDT potential-free contacts for simple 2-wire installation 8 A resistive, 3 A inductive switch rating Surface or switch-box mounting options Sensor fault self-diagnostics Heat/cool changeover operation mode possible Energy saving ECO button allows user to change to a lower, energy saving setpoint for a timed period of their choosing (1..24 hours) Display shows countdown of time remaining in ECO energy saving mode EN0H 8578 UK07 R1 12/08 DT90 DIGITAL ROOM THERMOSTAT CONTROLS / DISPLAY LAYOUT DT90A frost protect indicator heating demand indicator DT90E ECO mode active ECO countdown indicator temperature display setpoint change buttons ECO button setpoint indicator off/standby button fault indicator battery low warning off/standby indicator ECO mode countdown timer SPECIFICATIONS ELECTRICAL Power supply Battery life Battery low warning : 2 x 1.5V IEC LR6 (AA) Alkaline cells : Typically 4 years, minimum 2 years (with correctly specified alkaline cells) : Display will indicate when battery power reserve is low. Unit will continue to function for a minimum of 4 weeks after the first indication is given : SPDT (single pole double throw) potential free : 230 V, 50..60 Hz, 0.01 A to 8 A resistive, 0.1 A to 3 A inductive (0.6pf) : 24 V, 0..60 Hz, 0.01 A to 8 A resistive, 0.1 A to 3 A inductive (0.6pf) Relay life Wiring Wiring access : 100,000 operations minimum : Terminal block capable of accepting wires up to 2.5mm² : Rear, top and left side Positive off ECO energy saving Fail-safe operation TEMPERATURE CONTROL Sensing element : 10K (@25°C) NTC thermistor Temperature setting range Control form Proportional band Minimum on/off time Cycle rate : 5°C to 35°C setpoint range in 0.5°C increments : Self-learning TPI Fuzzy Logic algorithm : 1.5°C adjustable up to 3°C in 0.1°C increments : 1 minute, adjustable up to 5 min in 1 min increments : Adjustable to suit the application 3, 6, 9, 12 cycles per hour Switch type Electrical rating Temperature : ± 0.5°C (or better) at 20°C, 50% load control accuracy and 3°C /hour temperature ramp Frost protection : 5°C when thermostat switched to off/standby, adjustable 5°C to 16°C : Frost protection not available in cooling mode : Positive off possible (no frost protection) by setting in Installer Mode : Setpoint default 18°C, adjustable 5°C to 35°C : If temperature measurement system fails, unit will continue to operate on the assumption of a 10% load ENVIRONMENTAL & STANDARDS Operating temperature Shipping & storage temperature Humidity IP class Approvals : 0°C to 40°C : -20°C to 55°C : Humidity range 10% to 90% rh, noncondensing : IP30 : CE mark, complying with standards EN60730-1: 2001, EN60730-2-9: 2002 EN55014-1: 2001, EN55014-2: 1997 : WEEE & RoSH compliant : C-tick 2 METRICS Dimensions (unit) Dimensions (pack) Weight (unit) Weight (pack) : 90 x 92 x 27mm : 93 x 94 x 46mm : 165g : 192g EN0H 8578 UK07 R1 12/08 DT90 DIGITAL ROOM THERMOSTAT ORDERING SPECIFICATION Model DT90A1008 DT90E1012 Description Digital room thermostat Digital room thermostat with ECO energy saving feature Literature Multi-lingual Multi-lingual MAIN FEATURES Extra-Large Display The DT90 display is more than double the size of its predecessor, ensuring it is even easier to read and allowing more information to be displayed, when required. The large characters and high contrast screen are especially important for those with impaired vision. Simple Interface The user interface has been made as simple as possible to make DT90 very easy to use. Buttons have been labeled · and · to identify them as the means of increasing and decreasing (respectively) the setpoint temperature. The display normally shows the actual room temperature. When one of the buttons is first pressed, the setpoint temperature is shown flashing, accompanied by the · and · symbols. @@@@ @@@@ If required, frost protection can be switched off, to provide a positive off function. These adjustments are made by entering the DT90 Installer Mode. Installer Mode The Installer Mode is where DT90 can be configured for different applications, and customized to meet the needs of the user. The operating properties that can be adjusted are called parameters, and these are described in detail on page 6. Parameters are as follows: · Minimum on/off time · Cycle rate · Proportional band width · Temperature measurement offset · Upper setpoint limit · Lower setpoint limit · Energy saving ECO temperature (on DT90E only) · Selection of heat/cool changeover operation · Off/Standby setpoint · Electric heat operation · Reset all parameters to factory settings Installer Mode is entered via a sequence of button presses. The buttons are also used to scroll between t dt kh t th i l 3 NVRAM Storage of Settings All parameter settings are stored in a special kind of memory called NVRAM so they will be retained indefinitely even if the batteries are removed. Advanced Self-learning TPI Control DT90 uses a self-learning 'fuzzy logic' time-proportional control algorithm.



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This form of control is better than conventional PI control as it has a faster response and better performance in steady state conditions. It performs equally well in a wide range of different installations, and ensures energy savings by controlling closer to setpoint and minimising temperature overshoots. Additional Energy saving ECO feature In a heating system, one of the best ways to save energy is to reduce the setpoint temperature. The DT90 green ECO button provides a simple and convenient way of doing this for a period of time of the user's choice. The ECO energy saving setpoint is pre-defined in the Installer Mode. The factory setting is 18°C, but it can be adjusted (between 5°C and 35°C) to give a timed boost, if required. When the ECO button is pressed, the user is given the chance to set the time required at this new temperature, from 1 hour to 24 hours in 1 hour increments.

The display indicates that ECO mode has been set, and will count down the time remaining in energy saving mode. Should they wish to readjust the temperature setting, they can do that too, using the \cdot and \cdot buttons. ECO mode is cancelled simply by pressing the ECO button again. @@@@Avoid locations with high levels of condensing moisture. @@@@b. c. d. e. @@@@Each adjustable feature is called a Parameter. These are described below.

@@@Recommended settings are shown in the next table. @@@Recommended settings are shown in the next table. @@@@This iter: d. @@@. @@ Use the \cdot and \cdot buttons to adjust the parameter value. When the correct value is flashing, confirm the selection by pressing the off/standby button again, returning to the parameter menu. To exit Installer Mode: g. Press and hold the off/standby button for 3 seconds Note: Installer Mode will exit automatically after 10 minutes if no buttons are pressed. 7 EN0H 8578 UK07 R1 12/08 DT90 DIGITAL ROOM THERMOSTAT INSTALLER MODE - FLOWCHART ES parameter Only available on DT90E models ENERGY EFFICIENCY AND THE ENVIRONMENT Home energy use is currently responsible for more than 1/4 of the total carbon emissions which contribute to climate change. Heating and hot water systems based on boilers account for 2/3 of this figure, so it is important to understand how controls can help to maximize energy efficiency while maintaining comfort.

DT90 temperature controls should be used in conjunction with appropriate time controls. In order to save energy the following general points should be observed: 1. Ensure the system contains a room temperature thermostat and a hot water temperature thermostat (except for Combi boiler systems), and that both are set to appropriate temperature levels. 2. Programme the heating and hot water to be off when the house is not occupied. If possible frost damage to any exposed pipework is a concern, it is advisable to fit a frost protection thermostat or system. Honeywell can advise on this. 3. It is normal to have the heating system switched off, or set-back at night when heating is not required. 4.

Think about how domestic hot water is used. In a storage system, it is not necessary to have this switched on all the time, even when the house is occupied. 5. Do not programme excessive heatup times for the central heating. If the occupier is out of the house, or still in bed, much of this heating would be unnecessary. 6. In the evening, when the house is up to temperature, it is often possible to switch the heating off up to an hour before going to bed without any noticeable reduction in comfort The DT90 product family and its associated documentation and packaging are protected by various intellectual property rights belonging to Honeywell Inc and its subsidiaries and existing under the laws of the UK and other countries. @@@@For use outside of the scope as described herein, refer to Honeywell for guidance. Honeywell cannot be held responsible for misapplication of the product(s) described within this document. Manufactured in the UK, for, and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, ACS-ECC EMEA, Z.

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