

# 7 Day Digital Time Switch

Model: NTT03

Immersion Timer

Model: NTT04

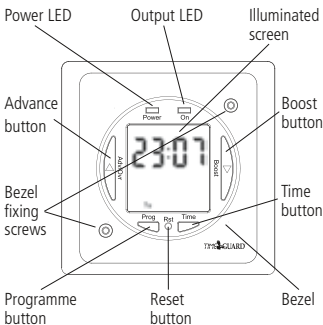
General Purpose Timer



Installation & Operating Instructions

# NTT03 – Immersion Timer

## NTT04 – General Purpose Timer



### 1. General:

This time switch is a compact and easy to use digital 7 day timer, which fits on a single gang wall box. It can control outputs of up to 16A which makes it suitable for domestic immersion heaters.

The NTT04 has volt free contacts, making it suitable for a wider range of switching applications. The NTT03 is designed primarily for domestic immersion heaters.

Programming can be 7 day, 5 + 2, or 24 hour.

## 2. Features:

4 ON/OFF switching programmes, which can be made to operate over all 7 days (24 hour operation), 5 weekdays 2 weekend days, or any individual day (7 day operation).

Advance feature advances to next programmed operation.

Boost feature provides 1 or 2 hour boost.

Battery back up retains programmes and clock times during loss of mains.

Option of automatic summer time update (ASCO).

Shortest switching time of 1 minute.

Programme review.

## 3. Installation:

**We recommend that this unit be fitted by a qualified electrician. Install in accordance to wiring and current building regulations. Please read the instructions carefully. If in any doubt contact the Timeguard Helpline. Important: Switch off mains electricity before commencing work.**

Remove the two bezel fixing screws, and remove bezel from timer module and back plate. Separate the timer module from the back plate, and remove the wall fixing screws.

Ensuring that the free terminals on the back plate are at the top, connect the installation wiring to the terminal block, according to the legend on the wiring label.

The earth wires should be connected to the wall box earthing terminal, or should be connected together using a single way connector block if there is no suitable earth terminal in the back box.

Fit the wall mounting screws through the back plate into the wall box threaded holes, and tighten until the back plate is firmly fastened.

Fit the timer module to the back plate, ensuring the power output indicator is on the top, and the locating holes on the timer are set correctly on the pegs on the back plate. Fit the bezel over the timer module, and secure to the back plate with the two screws provided.

For other wiring, the terminals are marked as follows:

- L** Live supply
- N** Neutral supply
- N OUT** Neutral output to immersion heater (NTT03 only).
- SL** Switch live output to immersion heater (NTT03 only).
- S in** Live Input for volt free output (NTT04 only) If volt free is not required, fit a link between **L** and **S in**.
- S OUT** Switch live output to heater or other appliance (NTT04 only).

Note: this device needs to be left to charge for a minimum of 15 minutes once powered up, before it will operate.

## 4. Battery:

The time switch has a factory fitted rechargeable battery to give clock operation and programme memory back up during loss of mains supply.

Before programming for the first time, connect the unit to the mains for at least 15 minutes prior to pressing the Rst button and programming the unit.

If the display is not visible or very faint, charge for 4 hours prior to pressing Rst and programming.

## 5. Reset:

The time switch must be reset before programming for the first time, or after subsequent discharge for more than 5 days, and following a 4 hour period of charging.

Press Rst using a pointed object, eg: a pencil.

The display will show all the segments, and then clear to show:



Use the Adv/Ovr button to change between on and off for the automatic summer time adjustment and proceed to section 6.

## 6. Setting the clock:

Press and hold down the Time button for 3 seconds. The word hold will show on the screen.



After 3 seconds, the screen will show a year.

Use the Adv/Ovr or Boost buttons to change the year to the correct year.

Press Time to set the year, and then the month will show.



Use the Adv/Ovr or boost button to adjust the month to the correct month.

Press Time to set the month, and then the day will show.

Use the Adv/Ovr or boost button to adjust the day to the correct day.



Press Time to set the day, and then the time will show, hours first.

Use the Adv/Ovr or boost button to adjust the hour to the correct hour.

Press Time to set the hour, and then the time will show the minutes. The hour is a 24 hour clock.



Use the Adv/Ovr or boost button to adjust the minutes to the correct minutes.

Press Time to exit the Time/date entry mode.

The display should now show the correct time/day of the week.



**Note:** during time/date setting, when the Adv/Ovr or Boost buttons are held down, the setting under adjustment will advance or decrease more rapidly.

## 7. Modifying the date and time of day:

Normally the only change required will be to the time of day minutes, in which case press and hold Time for 3 seconds, during which hold will show on the display. After 3 seconds the display will show the year:



Press Time repeatedly until the minutes are shown. Use Adv/Ovr or Boost to change the minutes to the correct value. Press Time to return to operating mode. Other changes can be made the same way, but the Time button must be pressed to return to operating mode after any changes. There is no automatic exit from Time/date entry mode.

## 8. Programming ON/OFF times:

The NTT03/04 has 4 independent ON/OFF periods available for programming each day. There is a choice of programming options, including 7 days the same (24 hours), 5 + 2 days (where the weekdays are the same, and the two weekend days are the same), and 7 individual days.

Press and hold the Prg button for 3 seconds. Whilst holding, the word Hold should show on the display.

After 3 seconds, the mode screen will show.



Use Adv/Ovr or Boost to change the day grouping mode. This will step through the following options:

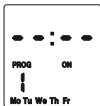
24hr – Mo Tu We Th Fr Sa Su

5 day – Mo Tu We Th Fr followed automatically in programming by 2 day – Sa Su.

Individual day – Mo followed automatically in programming by each of the other days.

Once the desired day grouping is selected, press Prg to move onto programming ON/OFF times.

The display will show Prog 1, with dashes for the hours and minutes.



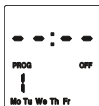
Example shown is for 5 + 2 programme.

Use Adv/Ovr or Boost to set the hour for the first ON period. Press Prg to change to setting the minutes.

Use Adv/Ovr or Boost to set the minutes.

Press Prg to change to programme 1 OFF time.

Press Prg to scroll through programme 2 ON, programme 2 OFF, programme 3 ON, programme 3 OFF, programme 4 ON and programme 4 OFF, adding in times as required.



If times are not required, just leave the dashes in place, and scroll past that programme.

After programme 4 has been entered, the day will index to the next day to be programmed, or in the case of 5 + 2 it will change to Sa Su. Programme the ON/OFF times as before.

After the last off time for programme 4 has been set, press Prg to exit programme mode.

At any stage in programming, if the Prg button is pressed and held for 3 seconds, the timer will return to operating mode.



The display will now show:

Where the day and time are correct, but the ON/OFF indicator may not reflect the current programme accurately, in which case press the Adv button to correct the indicator.

In the same way as for individual programmes, days or groups of days can be omitted either by leaving dashes in all the locations for ON/OFF times for that day or group of days. Alternatively, leaving the programme entry mode before filling in all the ON/OFF times will leave the remaining times blank.

The only way to re-enter a blank time is to reset the unit.



## 8.2 Programming across midnight:

Enter the required programme ON time.

Enter the programme OFF time as 00:00

Enter the first programme ON time for the next day as 00:00

Enter the required programme OFF time.

**Note:** for 24 hour the ON period for programme 1 must start 00:00.

## 9. Modifying or adding programmes:

Press Prg and hold for 3 seconds. Whilst holding, the word hold will appear on the display.

After 3 seconds the display will show the programming mode screen. This will be in the mode in which it was last programmed. For instance if it was programmed in 5 + 2, then it will show Mo Tu We Th Fr. Either accept this, press Prg, and review the times programmed for this mode by pressing Prg, or press Adv/Ovr or Boost to change the mode, and then press Prg to review the times. In this case, either to Sa Su, or to 7 day or to individual days.

Note: If the unit was programmed as a 5 + 2 then changing the mode to any other mode other than Sa Su may blank any previous programming.

The same applies for changing from any other mode, changing from the mode it was last programmed in may blank the previous programme.

Review times and adjust as necessary as described in section 8.

## 10. Advance/Override:

In operating mode Adv/Ovr advances the programme to the next change. If the output is OFF, it will change the output to ON, until the next programmed OFF time. If the output is ON, it will change the output to OFF, until the next programmed on time.

A second push of the Adv/Ovr button selects a permanently on mode, where the output is ON, irrespective of the programming.

A third push of the Adv/Ovr button selects a permanently OFF mode, where the output is OFF, irrespective of the programming.

A fourth push of the Adv/Ovr button returns the unit to operating mode, where the output will conform to the programming.

## 11. Boost:

One press of the boost button will provide 1 hours boost, after which the output will turn OFF. Two presses will give 2 hours boost. A third press of the boost button will cancel any boost period.

## 12. Specifications:

Operating temperature: 0°C to 40°C

Operating voltage: 230V 50Hz

Switch rating: 16A resistive,  
4A inductive,  
0.55 HP,  
750W incandescent,  
750W halogen,  
750W fluorescent,  
100W compact fluorescent.

Minimum depth  
of wall box: 32mm

Switch type: 16A relay

Voltage free contact: NTT04 only

Contact type: Normally open

Power ON light: Yes

Output Light: Yes

Time period: 7 day

### **Note:**

**Product not suitable for discharge lighting.**

## 3 Year Guarantee



In the unlikely event of this product becoming faulty due to defective material or manufacture within 3 years of the date of purchase, please return it to your supplier in the first year with proof of purchase and it will be replaced free of charge. For years 2 and 3 or any difficulty in the first year telephone the helpline on 020 8450 0515.

Note: a proof of purchase is required in all cases. For all eligible replacements (where agreed by Timeguard) the customer is responsible for all shipping/postage charges outside the UK. All shipping costs are to be paid in advance before a replacement is sent.

For assistance with the product please contact:

HELPLINE

**020 8450 0515**

or email [helpline@timeguard.com](mailto:helpline@timeguard.com)



For a product brochure please contact:

**Timeguard Limited.**

Victory Park, 400 Edgware Road,  
London NW2 6ND

Sales Office: 020 8452 1112  
or email [csc@timeguard.com](mailto:csc@timeguard.com)

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# TIMEGUARD®

## Electronic Room Thermostat

Model: TRT030N



Installation & Operating Instructions

# 1. General Information

These instructions should be read carefully and retained for further reference and maintenance.

## 2. Safety

- Before installation or maintenance, ensure the mains supply to the thermostat is switched off and the circuit supply fuses are removed or the circuit breaker turned off.
- It is recommended that a qualified electrician is consulted or used for the installation of this thermostat and install in accordance with the current IEE wiring and Building Regulations.
- Check that the total load on the circuit including when this thermostat is fitted does not exceed the rating of the circuit cable, fuse or circuit breaker.
- To clean use a clean dry cloth only. Do not use any liquid cleaners.

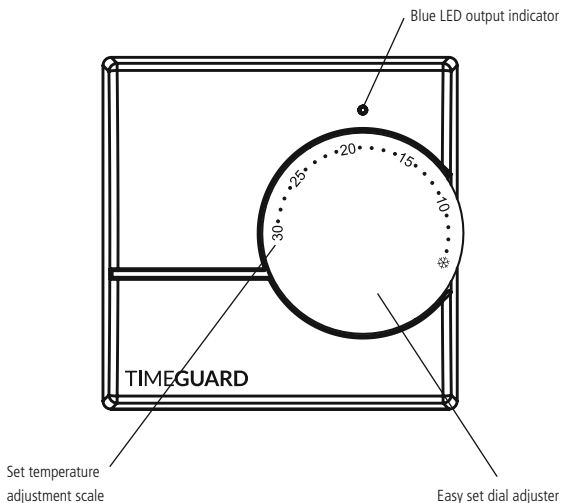
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## 3. Technical Specifications

- 230V AC 50 Hz
- This time switch is of Class II Construction and must not be earthed
- Switch Rating: 6(2)A
- Switch Type: Single pole, single throw (SPST)
- Connection Type: 3 wire
- Installation Type: Surface mount with wall plate
- Micro Disconnection: Type 1.B control action
- Operating Temperature Range: 0°C to +40°C
- Set Temperature Range: Minimum +5°C (frost setting) to maximum +30°C
- Temperature Swing Adjuster: +/- 0.5°C or 1.0°C set by DIP switch
- PID Adjustment: ON or OFF set by DIP switch

- Boiler Type Adjustment: 3CYC = Gas, 6CYC = Oil, set by DIP switch
- Output Light: Blue LED
- CE Compliant
- Dimensions (H x W x D): 86 x 88mm x 38mm

## TRT030N Front View



## 4. Siting

- The TRT030N must be sited where it will not be influenced by heat sources, for example above a radiator or a television or a refrigerator/freezer or in direct sunlight or subjected to draughts.
- The product requires air circulation, so do not position above or below shelving or other wall mounted obstacles.
- It should be mounted approximately 1.5 metres above floor level.

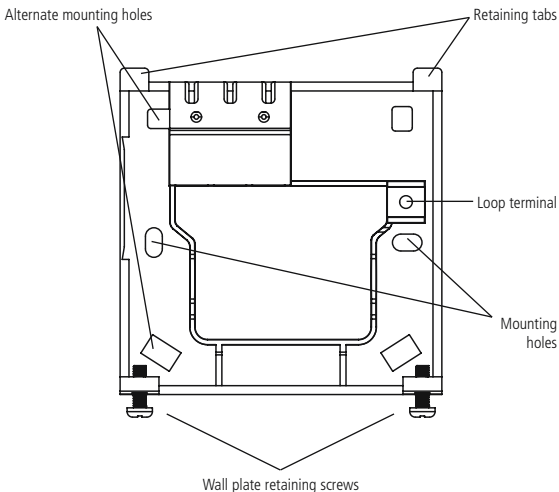
## 5. Installation

- 5.1 Ensure the mains supply is switched off and the circuit supply fuses are removed or the circuit breaker turned off.
- 5.2 Remove the wall plate from the unit, by undoing the retaining screws, and pivoting the bottom of the unit outwards. The TRT030N body can then be lifted off.
- 5.3 Mark the position of the mounting holes on the wall using the wall plate as a template. Drill out the mounting holes taking care to avoid any joists, electrical cables or water/gas pipes that may be hidden beneath the surface. Insert the rawl plugs into the holes.
- 5.4 Pass the 230V 50Hz mains supply and load cables through the opening of the wall plate. Allow sufficient excess cable to wire up the unit, but not too much to make it difficult to close the unit to the wall plate.
- 5.5 Fix the wall plate to the wall using the correct mounting screws for the rawl plugs installed. The retaining screws which secure the unit to the wall plate should be at the bottom.
- 5.6 Carefully remove the plastic terminal cover. Terminate the cables into the terminal block ensuring correct polarity is observed and that all bare conductors are sleeved (See section 6. Connection Diagram). Make sure that the curved washer grips the conductor. Reposition the plastic terminal cover and push into place.



- 5.7 To reinstall the unit onto the wall plate, first ensure the wall plate retaining screws are loosened enough to clear the TRT030N body, then engage the top of the TRT030N onto the wall plate retaining tabs, and push firmly downwards and then upwards. There will be some resistance from the terminals.
- 5.8 Once in place, secure with the retaining screws making sure not to over tighten.

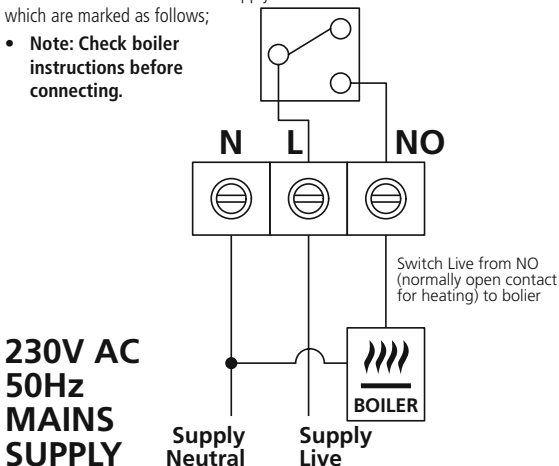
## TRT030N Wall Plate



## 6. Connection Diagram

Connect the 230V 50Hz mains supply and load cables to the terminal block which are marked as follows;

- **Note: Check boiler instructions before connecting.**



### 230V 50Hz Mains Supply

Live Supply (Brown or Red) to

**L**

Neutral Supply (Blue or Black) to

**N**

A 'Loop Terminal' is provided should a 3 core cable be used

### Load (Boiler)

Switch Live (Brown or Red) to

**NO**

## 7. DIP Switch Settings

- The temperature swing can be adjusted between 0.5°C and 1.0°C by selecting the desired DIP switch position found on the rear of the unit. We suggest using 0.5°C position unless the boiler turns ON and OFF too rapidly.
- The PID 'Proportional-Integral-Derivative' can also be selected ON or OFF using the DIP switches on the rear of the unit. We suggest setting this to the ON position. As the room temperature approaches the set temperature, the thermostat will intermittently turn the heating ON and OFF, to help prevent temperature over-shoot.
- The boiler type can be set to either 3CYC (Gas) or 6CYC (Oil), using the DIP switches on the rear of the unit.

## 8. Operation

- Restore mains to the unit after making sure to check all system wiring is complete, and after you have selected the desired DIP switch settings.
- Use the dial adjuster to set the desired temperature.
- The Blue LED output indicator is lit when the room temperature is below the desired value, indicating that the thermostat is calling for heat from the boiler.
- Once the room reached the desired temperature the LED turns OFF and the TRT030N ceases to call for heat from the boiler.

## 3 Year Guarantee

In the unlikely event of this product becoming faulty due to defective material or manufacture within 3 years of the date of purchase, please return it to your supplier in the first year with proof of purchase and it will be replaced free of charge. For the second and third years or any difficulty in the first year telephone the helpline on 020 8450 0515.

Note: A proof of purchase is required in all cases. For all eligible replacements (where agreed by Timeguard) the customer is responsible for all shipping/postage charges outside of the UK. All shipping costs are to be paid in advance before a replacement is sent out.

If you experience problems, do not immediately return the unit to the store. Telephone the Timeguard Customer Helpline;

HELPLINE

**020 8450 0515**

or email [helpline@timeguard.com](mailto:helpline@timeguard.com)

Qualified Customer Support Co-ordinators will be on-line to assist in resolving your query.



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