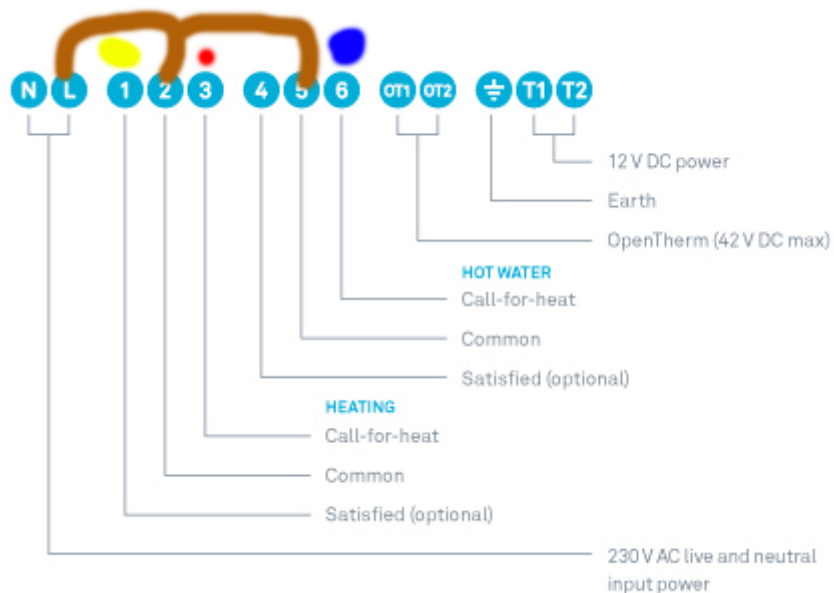


Thank you

^ | v • Reply • Share ›



Brian Mod → Tony Webber • a month ago



Hello Tony

This image should match your wires to the new terminals on the Nest box. The L & N on the right of your box need to be joined to the L & N on the nest box on the left side of the image

^ | v • Edit • Reply • Share ›



Tony Webber → Brian • a month ago

Hi Brian,

Thank you so much, so I just need to piggy back the wires, literally copy the old box? Thank you for the diagram. This may seem like a stupid question but the brown wire in your diagram is the black wire?

Thank you

Tony

^ | v • Reply • Share ›

1 | [Reply](#) • [Share](#) ›



Brian Mod ➔ Tony Webber • a month ago

Hi Tony,

The brown wire on my image is the black link on your box.

Brian

^ | ▼ • [Edit](#) • [Reply](#) • [Share](#) ›



Tony Webber ➔ Brian • a month ago

Hi Brian, I've just taken the thermostat off the wall and I have 3 wires however the nest only has two? What wires do I connect to the nest? There is a blue one a red one and a yellow one.

Thanks

^ | ▼ • [Reply](#) • [Share](#) ›



Brian Mod ➔ Tony Webber • a month ago

Hi Tony, The image above shows the red, blue and yellow connections as coloured circles above the nest connections.

^ | ▼ • [Edit](#) • [Reply](#) • [Share](#) ›



Tony Webber ➔ Brian • a month ago

Hi Brian sorry to be a pain, these connections are on the heat link. I've just removed my room thermostat and there is three wires in it and on the nest base there's only two. Thank you

^ | ▼ • [Reply](#) • [Share](#) ›



Brian Mod ➔ Tony Webber • a month ago

Hi Tony, I am not sure how your thermostat would be connected. When I installed my Nest i ran new cables between the main control box and the round controller.

For my old thermostat i had to join two of the wires together to set it to be in the heat mode. Do you have a multimeter you can use to check which pair on the thermostat are connected when

it is turned on ?

^ | v • Edit • Reply • Share ›



Tony Webber • a month ago



^ | v • Reply • Share ›



David Brenchley → Tony Webber • a month ago

Hi I have a problem with mine. Every thing works apart from the hot water valve does not open, I believe.

Mine looks simmer apart from red and yellow are swapped. In this photo where is the red 7 going to? Mine went to the room thermostat. On new room

where is the red 7 going to? mine went to the room thermostat. So now goes nowhere. The yellow 6 I have removed and going from 6 on the nest and to the hot water thermostat.

I have a feeling I should take 7 from Honeywell to 4 on the Nest.

Any help would be appreciated.

Thanks

Dave

P.S. Never mind It all works I had it right in the beginning. It was a bad contact after putting the face-plate of the junction box back on. From the original installers not my wiring at all. Should have double checked. Same problem with the old Honeywell box, screws not done up tight-enough.

^ | v • Reply • Share ›



Brian Mod ➔ David Brenchley • a month ago

Hi Dave

Sorry for the delay with my reply, I have been out all day today.

Glad its working now. I think it is a common problem with the honeywell boxes and the screws working loose over time. My dad was a plumber until he retired and it was a common issue for him to fix!

Brian

^ | v • Edit • Reply • Share ›



Frank Lemonis • 3 months ago

Hi Brian !!!

I need some help to install my nest v3 if you can !!! (please)

The old thermostat i have has only 3 cables. N (blue) ,L (black) and NO (red).

I'm not an electrician but i understand that N,L is for the electricity and the red cable is to control the boiler.

So i connect the heat link N (blue) & L (black) and i try to connect the red cable to 1 or 2 or 3 position but nothing happened, no command goes to the boiler.



[see more](#)

^ | v • Reply • Share ›



Brian Mod → Frank Lemonis • a month ago

Hi Frank, sorry for the delay with my reply. I didn't see the notification about your post. I think you will need to add a link between L and 2 and then connect your boiler wire to 3 (call for heat) pin.

^ | v • Edit • Reply • Share ›



Andreas Argyri • 3 months ago

Hi I need some help to install my nest. My existing controller has 4 wires live, neutral, ch on and he on. In addition to the controller I have also a Manual thermostat with two wires. So how do I connect them on nest





[see more](#)

^ | v • Reply • Share ›



Nick G • 7 months ago

Why is it necessary to create such a complex setup? What advantages does this method have over following the instructions which come with the Nest?

^ | v • Reply • Share ›



Brian Mod → Nick G • 7 months ago

The nest dosnt have the option to enable power when only on hot water so the workaround was needed to run the boiler to use hot water only

^ | v • Edit • Reply • Share ›



Nick G → Brian • 7 months ago

Not sure what you mean? The HW and CH relays on the Nest are completely independent.

^ | v • Reply • Share ›



Brian Mod → Nick G • 7 months ago

Our hot water system needs the CH to be turned on as well to power the boiler. The Nest dosnt allow you to power the CH relay when the HW is needed.

^ | v • Edit • Reply • Share ›



Nick G → Brian • 7 months ago

OK - that's a strange set up :) I wonder why it was done like that? Usually you have either a 3 port valve, or separate valves

for CH and HW - and therefore the two are independent from each other.

^ | v • Reply • Share ›



Brian Mod → Nick G • 7 months ago

The boiler is over 50 years old and was originally on a clockwork timer so not a modern system!

^ | v • Edit • Reply • Share ›



Nick G → Brian • 7 months ago

Wow - you could probably save a fortune on your gas bill by fitting a condensing boiler. A 50 year old boiler is likely only around 60-70% efficient.

^ | v • Reply • Share ›



Brian Mod → Nick G • 7 months ago

We have looked at the costs of replacement modern boilers and the time they last vs the savings on the gas bill and the savings are not viable as the modern boilers dont last anywhere near as long as the older designs and so the gas saving wouldnt go anywhere near the cost of replacements every 5-10 years.

^ | v • Edit • Reply • Share ›



Nick G → Brian • 7 months ago

Yeah I guess if you have a small or very well insulated house that could be true. For me it was a no brainier as the £1400 cost of getting a new boiler would easily be saved on the heating bills within the boilers 7 year warranty period alone.

^ | v • Reply • Share ›



Asif Avaice • 10 months ago

Could any one please guide me if am connecting my nest right.





^ | v • Reply • Share ›



Hristo • a year ago

Hi Brian,

I'm trying to replace my Drayton 7 Thermostat with 3rd Gen Nest. I have central heating system and hot water as well. Not sure though what kind of system it is, I have a pump and a water tank on the ceiling (might be gravity feed system)This is how the drayton is wired - <https://goo.gl/photos/a2uPc...> , and this is the scheme - <https://goo.gl/photos/vR727...> . How should I wire up my nest, I see there is a few schemes that I can use ? Which one would be suitable for my system

Thanks,

Hristo

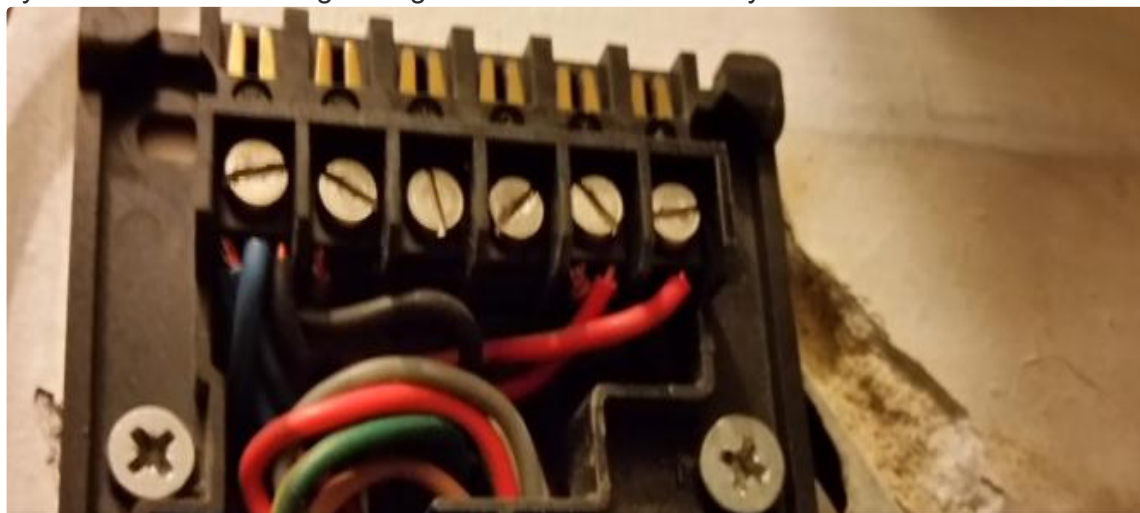
^ | v • Reply • Share ›



Nilesh M • a year ago

Hi Brian

Your blog is excellent with all required details and photos to install nest 3rd generation. I am trying to install it myself. I have a back boiler type central heating system. This system has a thermostatic on/off valve and no pump. This is gravity feed system. Also the heating through radiator is controlled by a thermostat.



[see more](#)

^ | v • Reply • Share ›



Brian Mod → Nilesh M • a year ago

Hello Nilesh

I think you need to add a link wire to supply power to both the HW and CH relays for your system. There is a post with a image below from Mark C who has added a link in the correct locations.

Brian

^ | v • Edit • Reply • Share ›

⋮ | ⏮ | ⏭ • Edit • Reply • Share ›



Muddy Boots • a year ago

Hi Brian,

Thanks for the detailed write up. I have been doing a lot of reading about the 3rd Gen Nest but cannot seem to get a detailed technical answer and your blog is the best I have so far come across.

I have a Rayburn gas boiler which is over 20 years old, and controls runs both HW and CH. It is a fully pumped system due to the low water volume heater exchanger in the boiler. The existing Horstmann programmer controls the two way (on/off) valve for each hot water circuit, and each valve, when powered, then fires up the pump and ignites the boiler. This means the HW and CH are completely independent of each other as both circuits have their own 'stat' - one on the tank in the loft and one on the wall in the living room. (I fitted the heating system and rewired the house myself 25 years ago so I know exactly how it works)

I can see how the Nest can control the CH due to the wireless thermostat, but I presume it just uses the boilers temperature setting for the HW as I cannot see how a separate HW stat is fitted - if one exists - this is confusing me?

As I understand it I would just swap the existing Horstmann programmer outputs for switching HW and CH with the 1,2,&3 or 4,5 and 6 outputs of the Nest, and would probably have to over-ride or just disconnect the HW tank stat? Any info on how the HW is controlled would be greatly welcomed.

Many thanks in advance.

^ | v • Reply • Share ›



Brian Mod ➔ Muddy Boots • a year ago

Hi Muddy Boots,

Your hot water system sound similar to ours with the thermostat on the hot water tank to regulate the maximum temperature.

The Nest system does not have any way to measure the hot water

The nest system does not have any way to measure the hot water temperature and so it would be best to keep your HW stat in series with your boiler/pump control so when the water is up to your preset temperature, the HW stops heating even if the Nest is set to run longer.

This will maintain the hot water for the time period you specify as it will heat further if the tank temperature drops causing the HW thermostat to turn on again supplying power to your boiler and pump.

If you remove the HW tank thermostat from the system there is the risk of the water getting too hot causing damage to the tank or burns.

The other connections to the nest relays should be the same as your old controller.

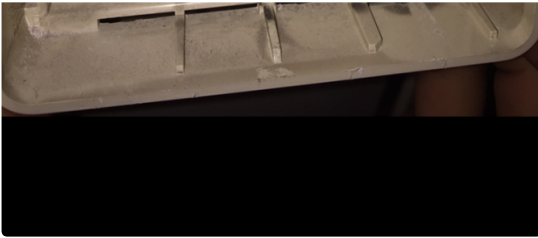
^ | v • Edit • Reply • Share ›



Wladimir Clemente • a year ago

Not sure if the picture went through





^ | v • Reply • Share ›



Wladimir Clemente • a year ago

Hi, i got my Nest device 3rd and when I opened my thermostat box (honeywell st699), i have one cable connected between hot water com, heating com and live. How should I do this connection in my Nest device? I wS planning to have heating and hot water working with my new toy. Appreciate your help!

^ | v • Reply • Share ›



Brian Mod ➔ Wladimir Clemente • a year ago

The link wire seems to just supply power to the second relay and so you should connect it the same on the Nest box

^ | v • Edit • Reply • Share ›



macdarabutler • 2 years ago

Hi Brian, thanks for this really detailed post it's very helpful.

The problem I have is that the professional installer did not connect anything to terminals 4,5,6 for 'Hot Water'. I have the same Nest device as you (3rd gen).

The Nest controller is connected to a Mynute 20e System Boiler (Gas) with a very basic setup in the house, there are no thermostats or zones (apart from the new Nest thermostat) and there was previously just a basic analogue clock timer with the old fashioned 'click-in' time slots on a single 24h clock face.

The timer could only turn on the Boiler and all the Radiators and there is nothing there to switch between Heating or Hot Water Only unfortunately. Luckily I do have standard thermostatic turn dials on each radiator so at least I can easily turn them on and off manually but it's not ideal.

I need to get the Nest control for 'Hot Water' to actually turn on the 'Heating' in effect, I assume this is what you are referring to in relation the Mains Relay that you purchased in Maplins?

Sorry I am not an expert in this domain so I don't really know what that Mains Relay is or why it's needed, would you mind expanding on that point a little?

I'm guessing you are effectively short circuiting the Heating terminals (1,2,3) into the Hot Water terminals (4,5,6) somehow and binding their response?

thanks for your help

Macdara

^ | v • Reply • Share ›



Brian Mod → macdarabutler • 2 years ago

Hi Macdara

From the description of your boiler it seems to be similar to ours which needs the hot water to be powered at the same time as the heating.

The relay which we have connected to the heating output on the Nest acts in the same way as the Nest's own hot water relay and sends power to the boiler when our heating is active.

The relay is just a switch which is controlled by a voltage (mains) on the one we selected and is effectively shorting the heating to hot water terminals but only when the heating is active and not when the hot water is active as that bypasses the relay outputs.

^ | v • Edit • Reply • Share ›



Mark C → Brian • 2 years ago

Hey Brian, nice solution with the extra relay but I think it was unnecessary. What you have behind points 4,5,6 is a simple relay anyway.

So. all you had to do was jumper 3 (CH ON) to 4. connect live to 6 and

...and you need to be sure jumper 4 (common) is not connected to 5. have (HW ON) fed off 5. Turn on CH it also passes current to 4/5 which is "Normally ON" so kicks in the HW. Turn on "JUST" HW it bridges just 5 & 6 (4 & 5 are no longer bridged so no current to CH) Simple :-)

^ | v • Reply • Share ›



Trevor Hinchey → Mark C • 3 months ago

Mark, you are a GENIUS! I was just about to fit a relay when I saw your post. What a beautiful solution, switching the polarity of the hot water. Well done and thank you so much for posting.

^ | v • Reply • Share ›



Guy → Mark C • 7 months ago

Hi Mark, was struggling right up until the point I read this. Works a treat now. Great post thanks.

^ | v • Reply • Share ›



Asif Avaice → Mark C • 10 months ago

Hi Mark C, could you please check if these connection are ok apart from live in L and neutral in N, hoteater in 3 and CH in 4. Also, these two wires, grey and white coming from 3 way diverter valve?

Appreciated!

^ | v • Reply • Share ›



Asif Avaice → Asif Avaice • 10 months ago

🏆 Featured by Brian Dorey Blog





^ | v • Reply • Share ›



Matt → Mark C • a year ago

Mark C, you are genius. Thanks for the solution, 13.5 hours I've spent trying to get my nest to work properly, 10mins after reading this it was sorted. Thanks for your help

^ | v • Reply • Share ›



Leigh Park → Mark C • a year ago

Thanks Mark C. Mine now working perfectly after following your instructions.

^ | v • Reply • Share ›



macdarabutler → Mark C • 2 years ago

Can you post a photo of yours please Mark C?

^ | v • Reply • Share ›



Mark C → macdarabutler • 2 years ago

Back home in the UK late Friday so will do so then 😊

^ | v • Reply • Share ›



stevenhorner → Mark C • a year ago

Hello,

@Mark C are you able to post a pic of yours. I've been holding off buying a Nest due to a similar setup as mentioned in this post and my current controller is a Danfoss 102E5.

Think I need to draw out what you've described to get my head around how it should look rather than adding in an extra relay, but a picture would be easier if possible?

^ | v • Reply • Share ›



Mark C → stevenhorner • a year ago

I crawled in. You should be able to see from the pic how it does not require a relay of wired this way. It has worked flawlessly since day 1.



^ | v • Reply • Share ›



stevenhorner → Mark C • a year ago



Thanks, that is just about what I drew. I had drawn my common cable from my old programmer going direct into 2, rather than jumpering Live between L, 2 & 6 which is the same thing (I think).

Reassuring, thanks again.

16 ^ | v • Reply • Share ›



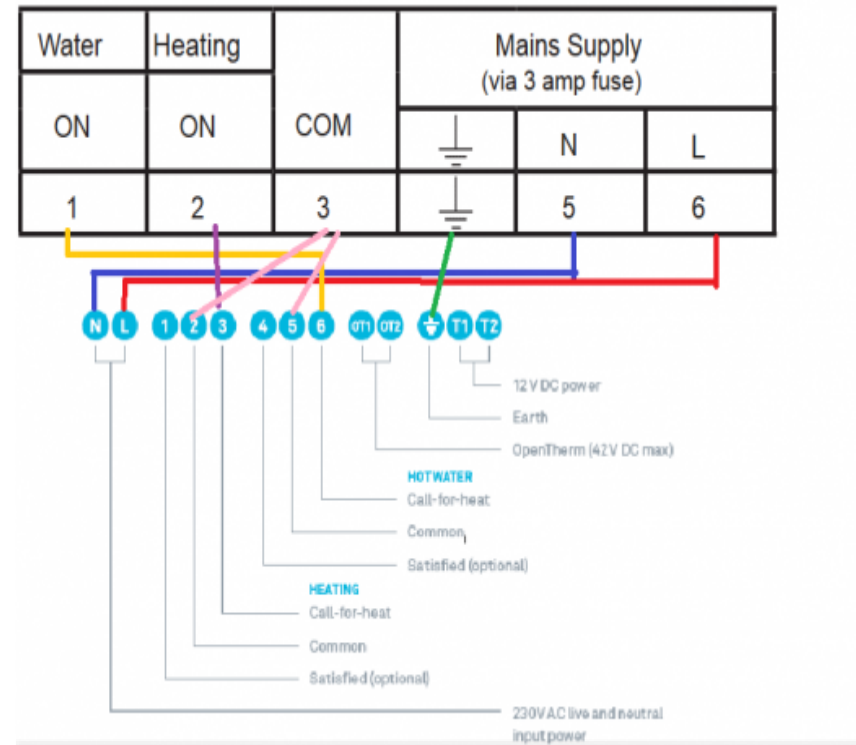
Mark C ➔ stevenhorner • a year ago

Oh blimey forgot about this. I have a photo somewhere. I will have a look. I cannot get to it now.

^ | v • Reply • Share ›



stevenhorner ➔ stevenhorner • a year ago



see more

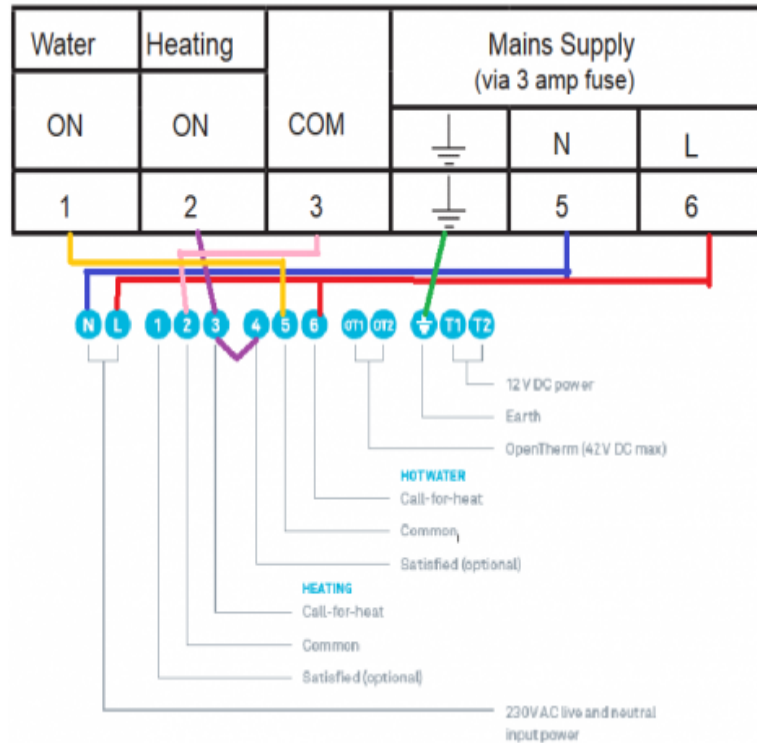
^ | v • Reply • Share ›

^ | v • Reply • Share ›



stevenhorner → stevenhorner • a year ago

@Mark C Sorry realised that 2nd picture was wrong but Disqus wont allow me to change the picture in the post. So here's the one I think you are describing?



^ | v • Reply • Share ›



macdarabutler → Brian • 2 years ago

Thanks for the quick reply, I've come up with an alternative workaround using a complex schedule (see attached). This is a temporary solution until I get the relay in place.

I was curious how does the Nest respond if Hot Water is set to 'On' and the temperature goes above the desired level for Heating as on the Nest Thermostat?

This would create a conflict where the Hot Water is saying to the Boiler 'Stay On' but the Heating is saying 'Turn Off'?

Does the relay solve that problem?



^ | v • Reply • Share ›



Mark C → macdarabutler • 2 years ago

Assume you have already put a relay in place but if not take a look at my post above. :-)

^ | v • Reply • Share ›



macdarabutler → Mark C • 2 years ago

Thanks Mark, I haven't done anything with it yet.

^ | v • Reply • Share ›



Brian Mod → Mark C • 2 years ago

We already added the relay in December, didnt think of using the other relay "backwards" :)

^ | v • Edit • Reply • Share ›