

# NEST 3rd GENERATION LEARNING THERMOSTAT INSTALL

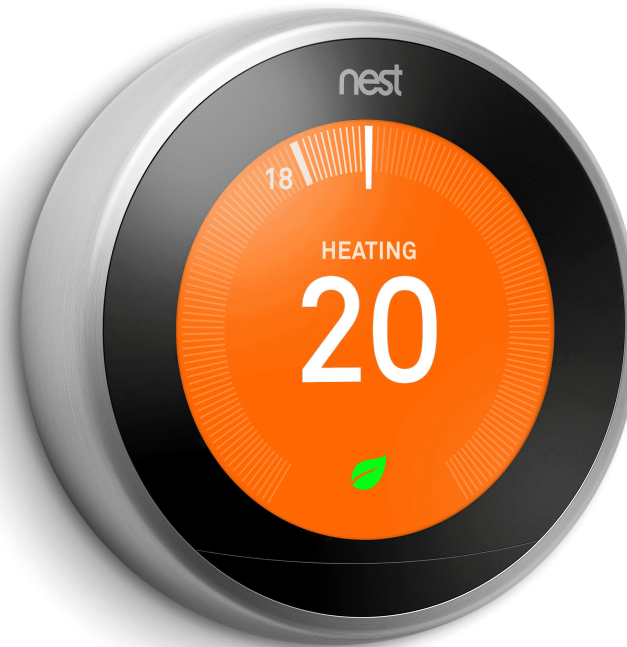
## REFER TO

- NEST Install Guide PDF (in Property folder / 108)
- How to install NEST on S-Plan system video ([YouTube](#))
- LWC1 Wiring Centre (wiring guide) PDF
  
- Also for information:
  - NEST Welcome Guide PDF
  - How an S-Plan heating system works ([YouTube](#))

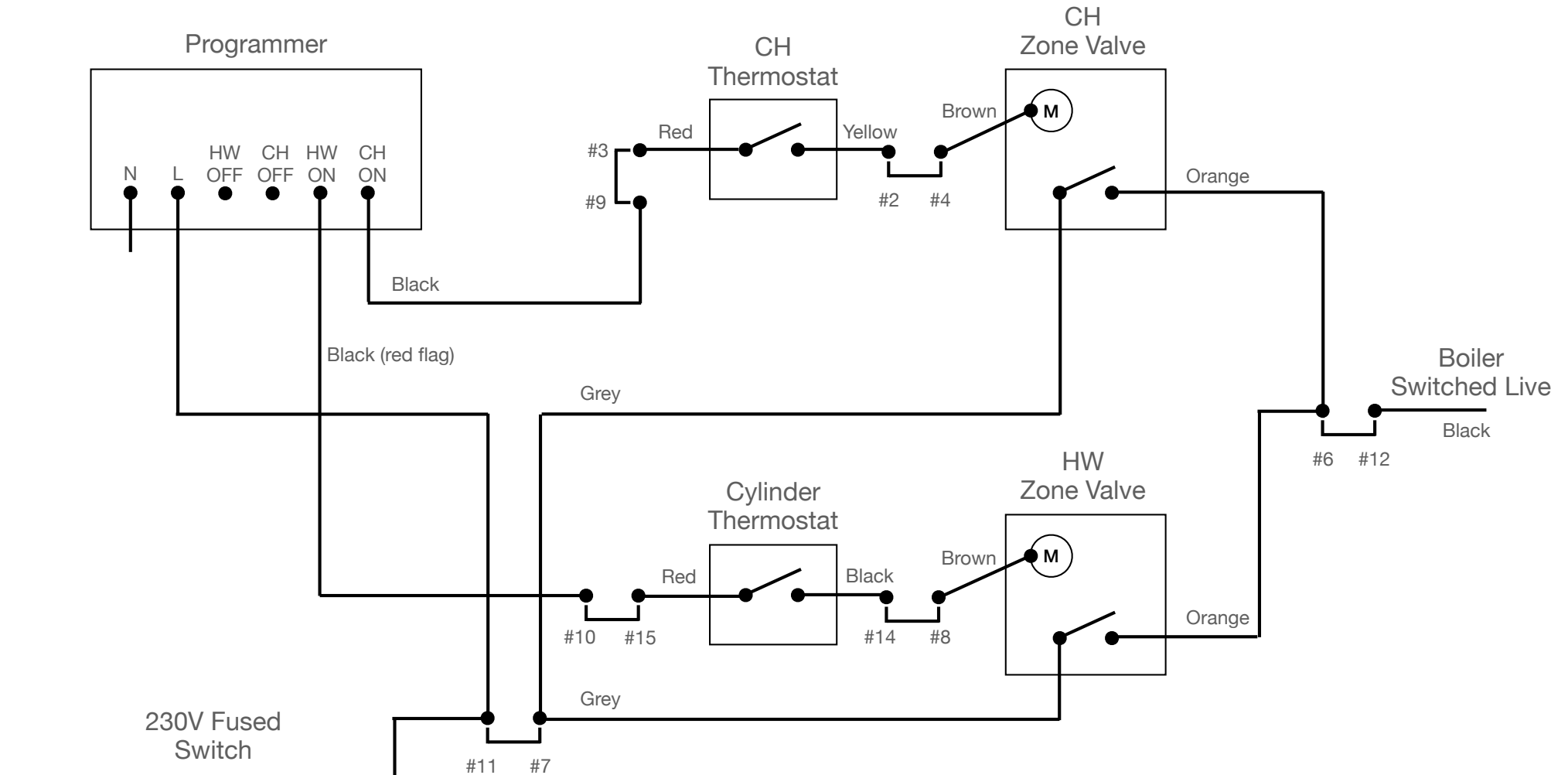
## SAFETY



- Turn off mains power to heating system before starting work, and remove fuse from fused spur
- **BEFORE installing NEST Thermostat** to back-plate, switch on mains power to Heat-Link, then test the two terminals in the back-plate to confirm 12V DC only



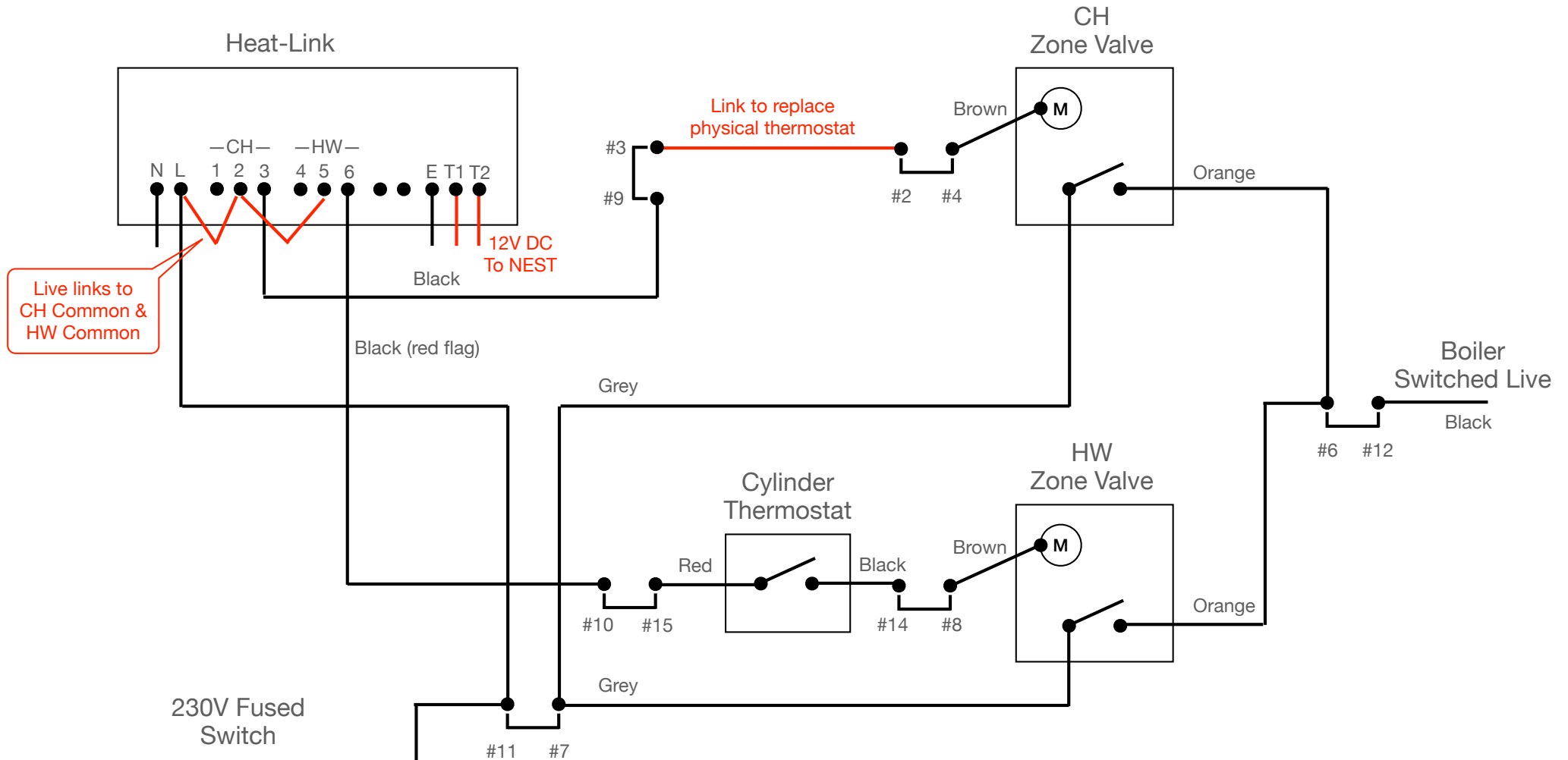
# PRE-NEST (S-Plan)



## NOTES

- CH = Central Heating, HW = Hot Water
- #numbers represent terminals in Wiring Centre box
- All neutral and all earth wires connected together in vertical block in Wiring Centre
- When thermostat closes and heat-called the valve motor runs. When fully open the switch closes to feed Live to the boiler

# POST-NEST (S-Plan)



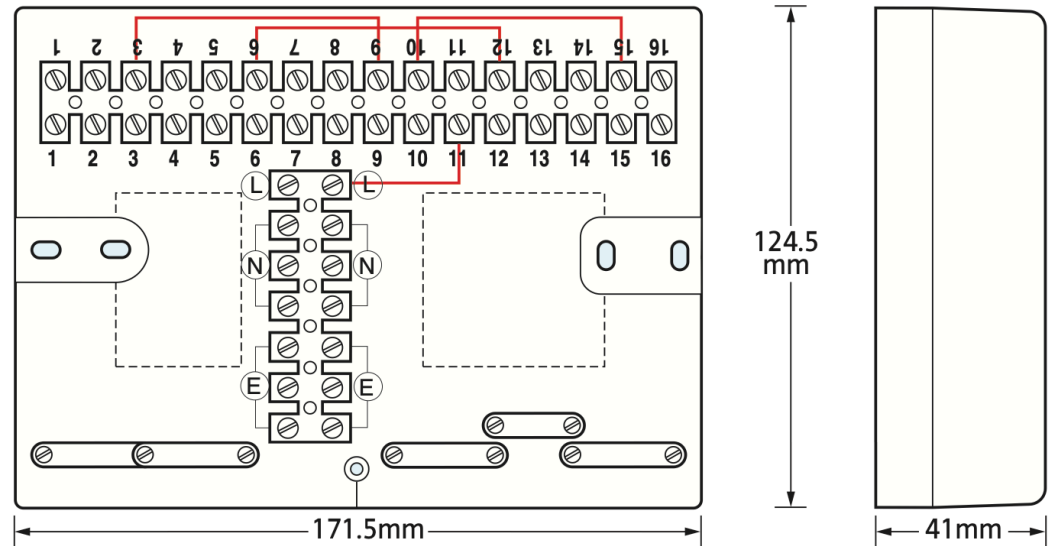
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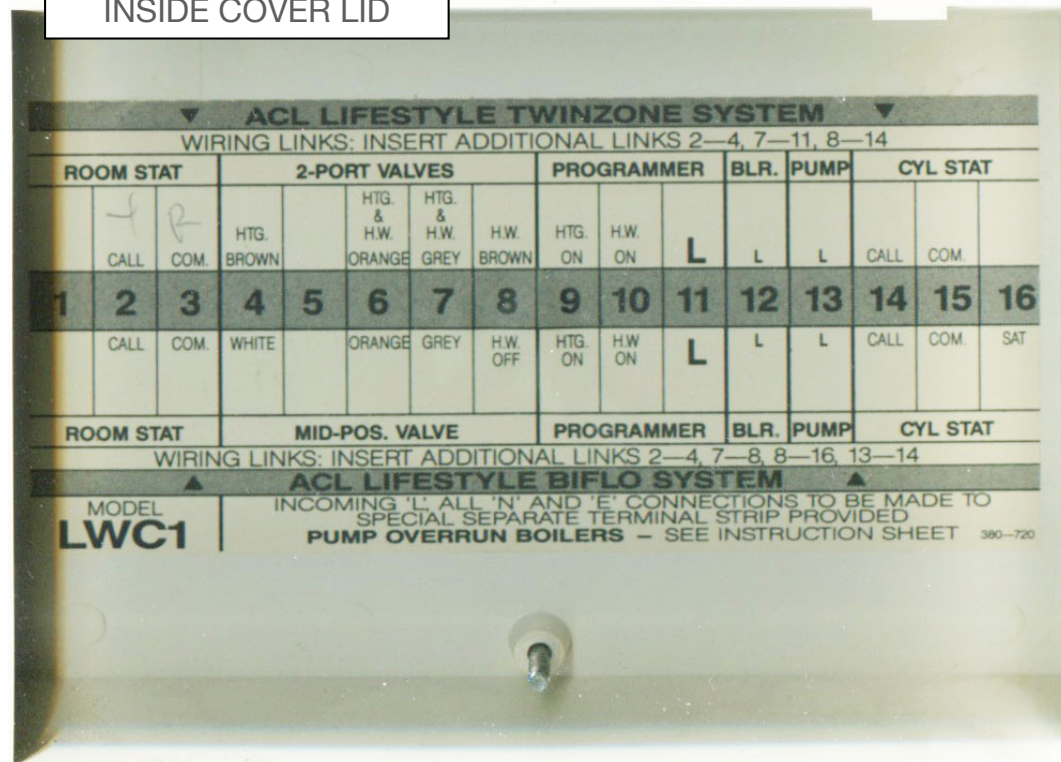
# LWC1 WIRING CENTRE

- Inside layout at right
  - Vertical connector provides common connection for Neutral and Earth wires
- Originally had Yellow/Red from room thermostat to #2 and #3. Replaced by wire link. Thermostat control now by NEST unit

LWC1



INSIDE COVER LID



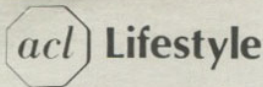
# LWC1 WIRING CENTRE

## NOTES

- All links as per Basic Links diagram, including dotted lines, and [11] to vertical choc-block (L)
- All Neutral and Earth wires into Wiring Centre box go to vertical choc-block for common connection (Top = 1 = Live, 2/3/4 = Neutral, 5/6/7 = Earth)
- Wiring as per diagrams as right, except:
  - Pump LIVE goes to [1] rather than [13], which links with Boiler black2. This allows the boiler to control the pump as required
  - Boiler black1 (switched LIVE) goes to [12] as per diagram


## CHANGES FOR NEST (refer to installation manual)

- Followed guidance in this [YouTube video](#)
- Replaced programmer with Heat-Link box
  - Neutral/Live N / L
  - Earth Earth
  - Black Term 3
  - Black (with red flag) Term 6
  - Links L -> 2 and 2 -> 5
  - 12V DC (see below) T1 / T2
- In Wiring Centre box, removed room thermostat cable from #2, #3, N and earth. Fit link between terminals #2 and #3
- Add choc-block to extend two wires of room thermostat cable to T1 / T2 (12V DC) on Heat-Link
- Replace thermostat with NEST back plate
  - Wire two wires (T1/T2) of thermostat cable above to terminals on the back plate to feed

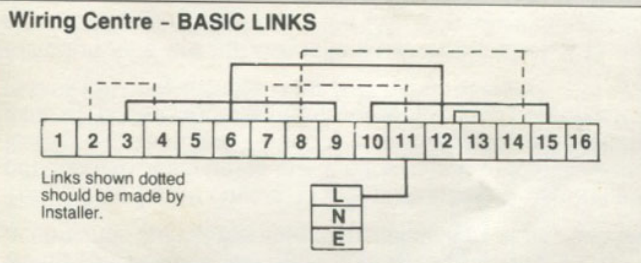


# LWC1 Wiring Centre

## WIRING GUIDE



### Wiring Centre - BASIC LINKS

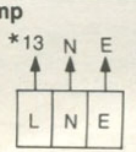


Links shown dotted should be made by installer.

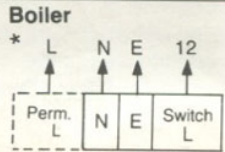
#### CONNECTIONS

The numbers printed at the tip of each arrow represent the Wiring Centre Terminals to which those leads or terminals should be connected.

#### Pump



#### Boiler

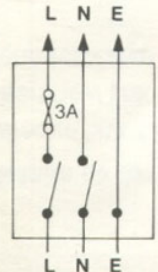


\*Refer to Boiler Handbook for wiring details of Pump Overrun boilers

### Controls

Room Thermostat					Cyl. Thermostat				Programmer									
		3	2	N	E			15	14	E			N	11	10	9	E	
ACL TS 142	1	2		4	⏚	ACL HTS2	Red	Bk	Y		ACL Lifestyle LS722 LS522	N	L	1	2	3	4	
ACL TA350	1	3	2		5	ACL HTS3	C	1	2		ACL Lifestyle LS112	N	L	1	2	3	4	
Others	COM	CALL	SAT.	N	E	Others	COM	CALL	SAT.	E	Others	N	L	HW OFF	CH ON	HW ON	CH ON	E

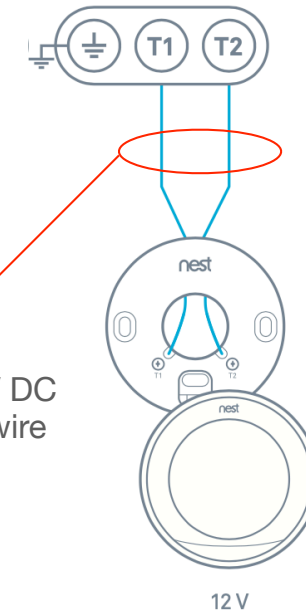
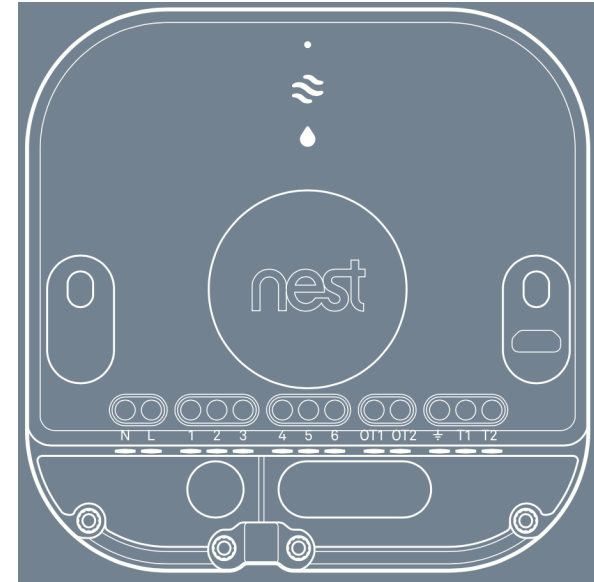
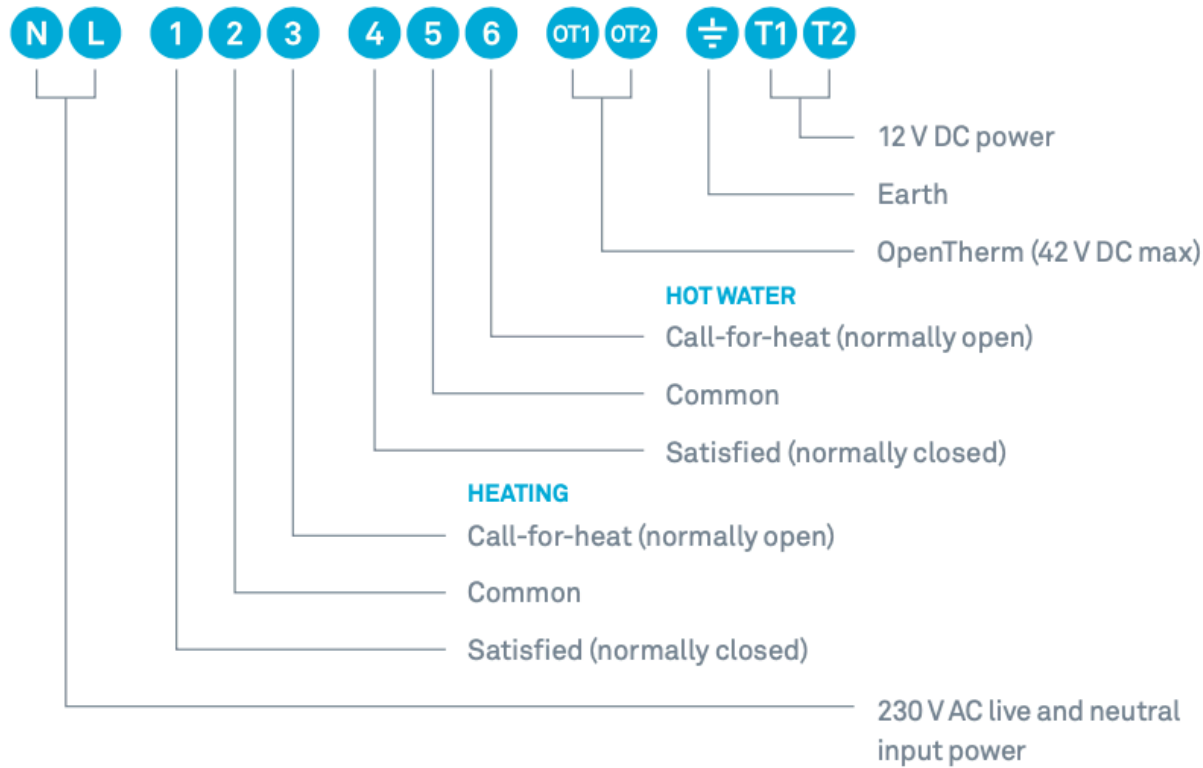
#### Mains Input 240v. 50Hz.



#### Motorised Valves

		8	N	E	6	7			4	N	E	6	7
ACL Lifestyle 679H308 - 30LI		Brown	Blue	Yell/Green	Orange	Grey			Brown	Blue	Yell/Green	Orange	Grey
Other Valves		L	N	E	C	N.O.			L	N	E	C	N.O.
		Motor	⏚	Aux.SW					Motor	⏚	Aux.SW		
		DHW VALVE			CH VALVE								

# NEST HEAT-LINK TERMINALS



Original room thermostat cable reused for 12V DC to NEST Thermostat. It doesn't matter which wire goes into which connector

## INSTALL PROCEDURE

- Turn mains power off, remove fuse from fused spur
- Confirm power off by testing terminals with multimeter
- Remove programmer
  - Remove wires, mark black wire 5 with red flag to separate from black wire 6
  - Remove programmer base
- Fit Heat-Link
  - Wire L/N/E to Heat-Link, pins 2, 1, 11
  - Connect CH to 3, HW to 6 (red flag)
- Remove room thermostat wires in Wiring Centre 2/3/N/E
- Fit link between terminals 2 and 3
- Add extension wire with choc-block to wire from room thermostat
- On Heat-Link connect 2 wires of extension wire to T1/T2 (12V)
- Disconnect room thermostat, remove unit
- Fit NEST Thermostat baseplate
  - Connect two wires above to terminals, any way round ok
  - Turn on mains power to Heat-Link
  - With multimeter **confirm 12V DC** at NEST Thermostat baseplate
  - Turn off mains power
  - Fit NEST Thermostat to baseplate
- Replace all covers
- Turn on mains power
- Setup NEST config
  - System boiler / Gas / Radiators