GS UNDERFLOOR
HEATING

POWER    1    2    3    4    5    6    7    8    HW    HEAT

CE    Manufactured in UK by: Heatmiser UK Ltd
www.heatmiser.com

UH8-N

WARNING : 230v - 50Hz
DISCONNECT FROM ELECTRICAL SUPPLY
BEFORE REMOVING THIS COVER

Model: **UH8-N**

## 🔧 UH8-N – Installation Manual

**Description**

The UH8-N is an 8 Zone wiring centre for use with Heatmiser 12v thermostats.

The UH8-N can be used to control any actuator or valve which requires a 230v AC signal. At the same time the UH8-N offers the ability to operate a boiler or other heat source through a volt free output.

Additional outputs designed for use with underfloor heating systems are also included as standard. These are the pump and valve outputs which would normally operate a manifold pump or a manifold valve.

Zone 8 can be used as an isolated radiator zone by using the UFH/RAD switch.

If the switch is set to **RAD**;

When zone 8 calls for heat this will provide an output to a radiator zone valve and the boiler, but **WILL NOT** enable the underfloor heating pump/valve output.

If the switch is set to **UFH**;

When Zone 8 calls for heat, this will act as an underfloor heating zone, by enabling the actuator, boiler and pump/valve outputs.
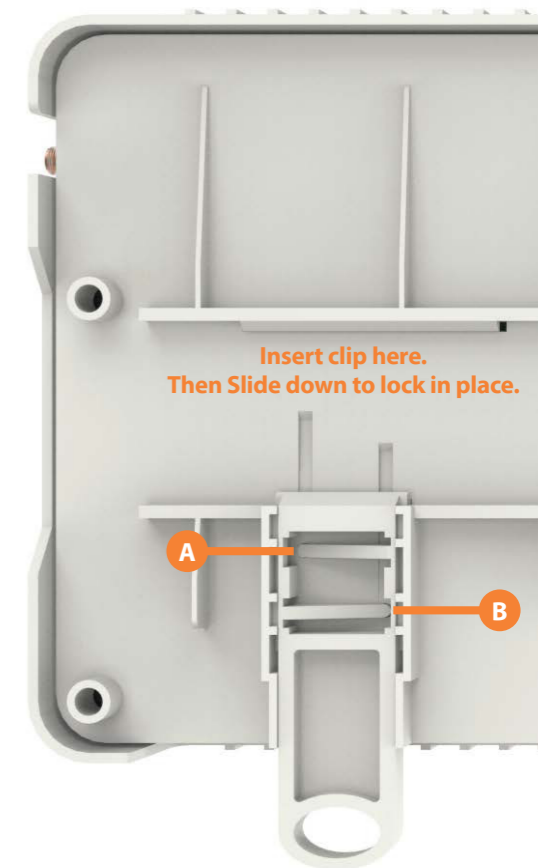
Any output which is not needed can be ignored.

## 🔧 Installation

The UH8-N can be mounted directly to a wall using four screws or alternatively, the unit can be DIN rail mounted.

When DIN Rail mounting, you first need to insert the two clips provided on the back of the UH8-N, as shown in the image;

- On the back of the UH8-N, position the clip in the middle and slide down.
- Points A and B locate in the corresponding holes and lock into place.
- Locate the UH8-N onto the DIN rail from the top.
- Pull the clip down and push the bottom of the UH8-N onto the DIN rail.
- Releasing the clip will lock the UH8-N in place on the DIN rail.

To remove the UH8-N, pull both clips down and remove from the DIN rail.

**Insert clip here.
Then Slide down to lock in place.**

A

B

## Connections

### Mains Supply

Power supply into the UH8-N which should be fused at 5 amps these connections are marked

L = live or phase 230v AC 50/60Hz
N = Neutral
E = Earth

### Heat Enable

This is the main call for heat for the system, there are 3 connections;

LS = Live Supply
E = Earth
LR = Live Return

Electrically this is a volt free switch, whatever supply is placed on the LS connection, is fed to the LR connection when there is a call for heat.

### Zones 1…8 (Thermostat Inputs)

Zone inputs are clearly marked at the top of the circuit board;

+/- = 12 volt supply to power thermostats.

A1 = 12 volt supply to thermostat electronic switch.

A2 = 12 volt switch return.

Y&B = Network communications ports.

### Zones 1…8 (Actuator/Valve Outputs)

Zones outputs are clearly marked

L = live out to actuator or valve
N = neutral to actuator or valve

There are two connections live (L) and neutral (N), both terminals marked L are the same and both terminals marked N are the same.

Each zone output corresponds to the thermostat wired in at the top of the pcb.

### UFH Pump

Used for an underfloor heating manifold pump.
Connections are clearly marked

L = Live
E = Earth
N = Neutral

When an under-floor heating zone sends a call for heat to the UH8-N, the live & neutral output will supply 230v to the manifold pump.

It is recommended that this is fed through a high limit switch placed on the heating manifold, to protect against mechanical failure of the manifolds temperature control.

### UFH Valve

Used for an underfloor heating manifold valve.
Connections are clearly marked;

L = Live
E = Earth
N = Neutral

When an under-floor heating zone sends a call for heat to the UH8-N, the live & neutral output will supply 230v to the manifold valve.

### Fuses

**Fuse 1.** 5amp, 20mm anti-surge fuse, this fuse supplies power to all 230v outputs from the board it protects the zone, pump/valve outputs.

## Ratings

| | |
|---|---|
| Number of Heating Zones | 8 |
| Number of Hot Water Zones | 1 |
| LED Indication | Y |
| DIN Rail Mounting | Y |
| **Supply** | 230v AC 50Hz 1 Phase |
| **Relay Load Max** | 3 Amp Resistive |
| **Total Load Max** | 5 Amp Resistive |
| **IP Protection** | IP20 |
| **Installed Dimensions (L,H,D)** | 384 x 148 x 60mm |
| **Weight** | 800g |

# UH8-N – Slimline-N and Hot Water Zone

## UH8-N

**RADIATORS**

Yellow & Blue wires from thermostat

GS UNDERFLOOR HEATING

TOUCHPAD

SLIMLINE-N HW

+ - Y B

**UFH** SLIMLINE-N + A1 A2 - Y B

**UFH** SLIMLINE-N + A1 A2 - Y B

**UFH** SLIMLINE-N + A1 A2 - Y B

**UFH** SLIMLINE-N + A1 A2 - Y B

+ A1 A2 - B1 B2

CABLE TYPE
BELDEN 9538
CAT-5E( FTP )

| UFM | UNDER FLOOR MANIFOLD | Y CABLE | | POSITIVE |
| --- | --- | --- | --- | --- |
| LIVE | | B CABLE | | NEGATIVE |
| SWITCH LIVE | | B1 | | A1 |
| NEUTRAL | | B2 | | A2 |
| EARTH | | | | |
| END SWITCH AND BOILER ENABLE | | | | |

TOUCHPAD + - Y B

ZONE 1 + A1 A2 - Y B

ZONE 2 + A1 A2 - Y B

ZONE 3 + A1 A2 - Y B

ZONE 4 + A1 A2 - Y B

ZONE 5 + A1 A2 - Y B

ZONE 6 + A1 A2 - Y B

ZONE 7 + A1 A2 - Y B

ZONE 8 + A1 A2 - Y B

H WATER B1 B2 S S

ZONE 8 TYPE

MAINS N E L

ZONE 1 L L N N

ZONE 2 L L N N

ZONE 3 L L N N

ZONE 4 L L N N

ZONE 5 L L N N

ZONE 6 L L N N

ZONE 7 L L N N

ZONE 8 L L N N

HOT WATER L E N

UFH VALVE L E N

UFH PUMP L E N

HEAT ENABLE LS E LR

5A FUSE

MAINS SUPPLY

L N ZONE 1 ACTUATOR 230V

L N ZONE 2 ACTUATOR 230V

L N ZONE 3 ACTUATOR 230V

L N ZONE 4 ACTUATOR 230V

HOT WATER STAT

RADIATOR VALVE VALVE WITH ENDSWITCH

HOT WATER VALVE VALVE WITH ENDSWITCH

UHF VALVE

UFH PUMP

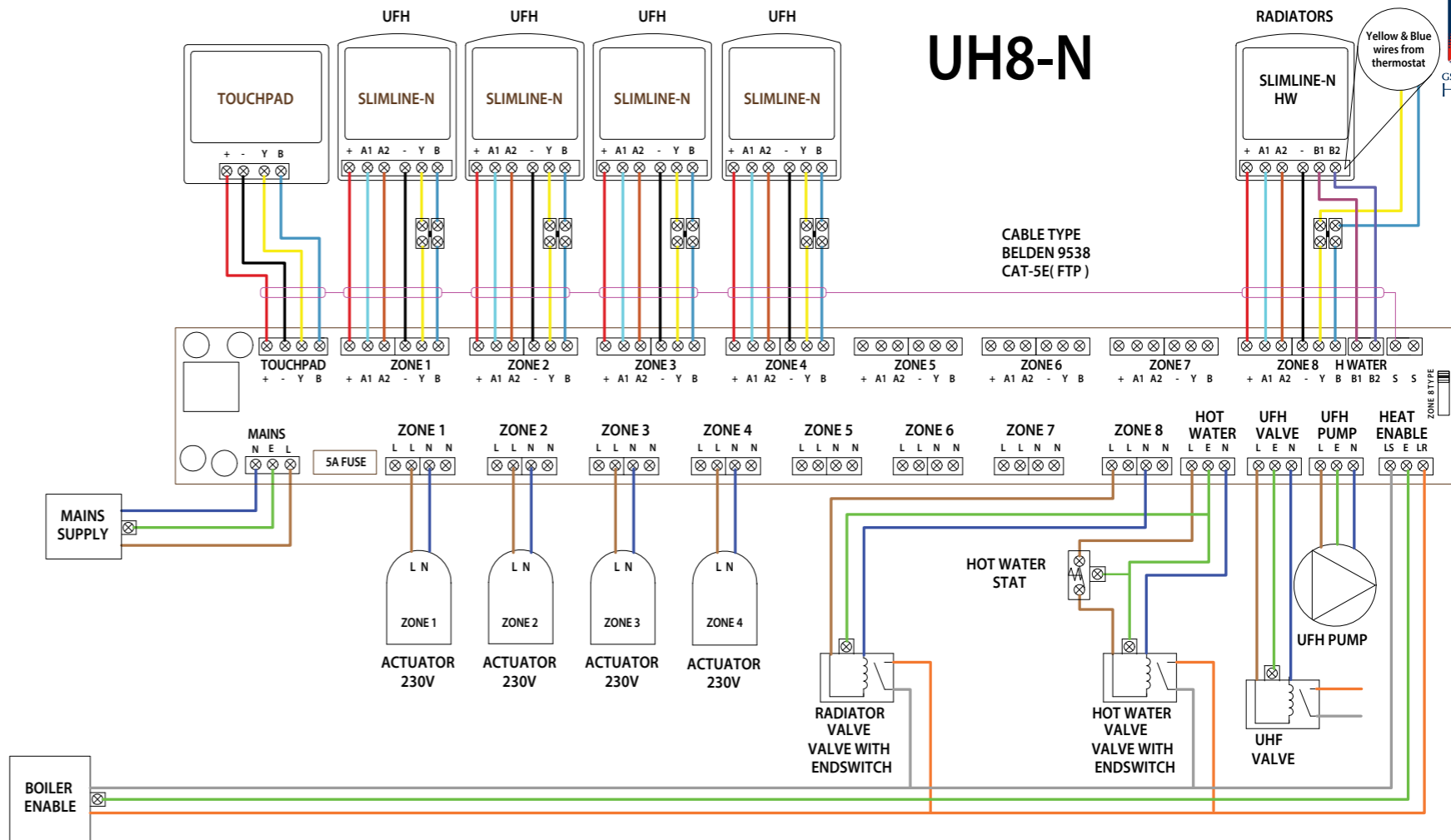BOILER ENABLE

This equipment should be installed by an appropriately qualified/registered electrician.
Fully read the instructions for proper wiring before applying power.
The warranty does not cover damage from improper wiring or installation.

GS UNDERFLOOR HEATING

## UH8-N – neoStat-12v and Radiator Zone

UH8-N

UFH    UFH    UFH    UFH    RADIATORS

NEOSTAT-12v    NEOSTAT-12v    NEOSTAT-12v    NEOSTAT-12v    NEOSTAT-12v

+  A1 A2  -  RT1 RT2

**UFM   UNDER FLOOR MANIFOLD**

LIVE

SWITCH LIVE

NEUTRAL

EARTH

END SWITCH AND
BOILER ENABLE

POSITIVE

NEGATIVE

A1/B1

A2/B2

TOUCHPAD    ZONE 1    ZONE 2    ZONE 3    ZONE 4    ZONE 5    ZONE 6    ZONE 7    ZONE 8    H WATER
+  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    +  A1 A2  -  Y  B    B1 B2  S  S

ZONE 8 TYPE

MAINS    ZONE 1    ZONE 2    ZONE 3    ZONE 4    ZONE 5    ZONE 6    ZONE 7    ZONE 8    HOT    UFH    UFH    HEAT
N  E  L    L  L  N  N    L  L  N  N    L  L  N  N    L  L  N  N    L  L  N  N    L  L  N  N    L  L  N  N    L  L  N  N    WATER    VALVE    PUMP    ENABLE
                                                                                                           L  E  N    L  E  N    L  E  N    LS E  LR

5A FUSE

MAINS
SUPPLY

L N    L N    L N    L N

ZONE 1    ZONE 2    ZONE 3    ZONE 4

UFH PUMP

ACTUATOR    ACTUATOR    ACTUATOR    ACTUATOR
230V    230V    230V    230V

RADIATOR    UHF
VALVE    VALVE
VALVE WITH
ENDSWITCH

BOILER
ENABLE

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GS UNDERFLOOR HEATING

# UH8-N – neoStat-12v and Hot Water Zone

UH8-N

## Legend

UFM   UNDER FLOOR MANIFOLD
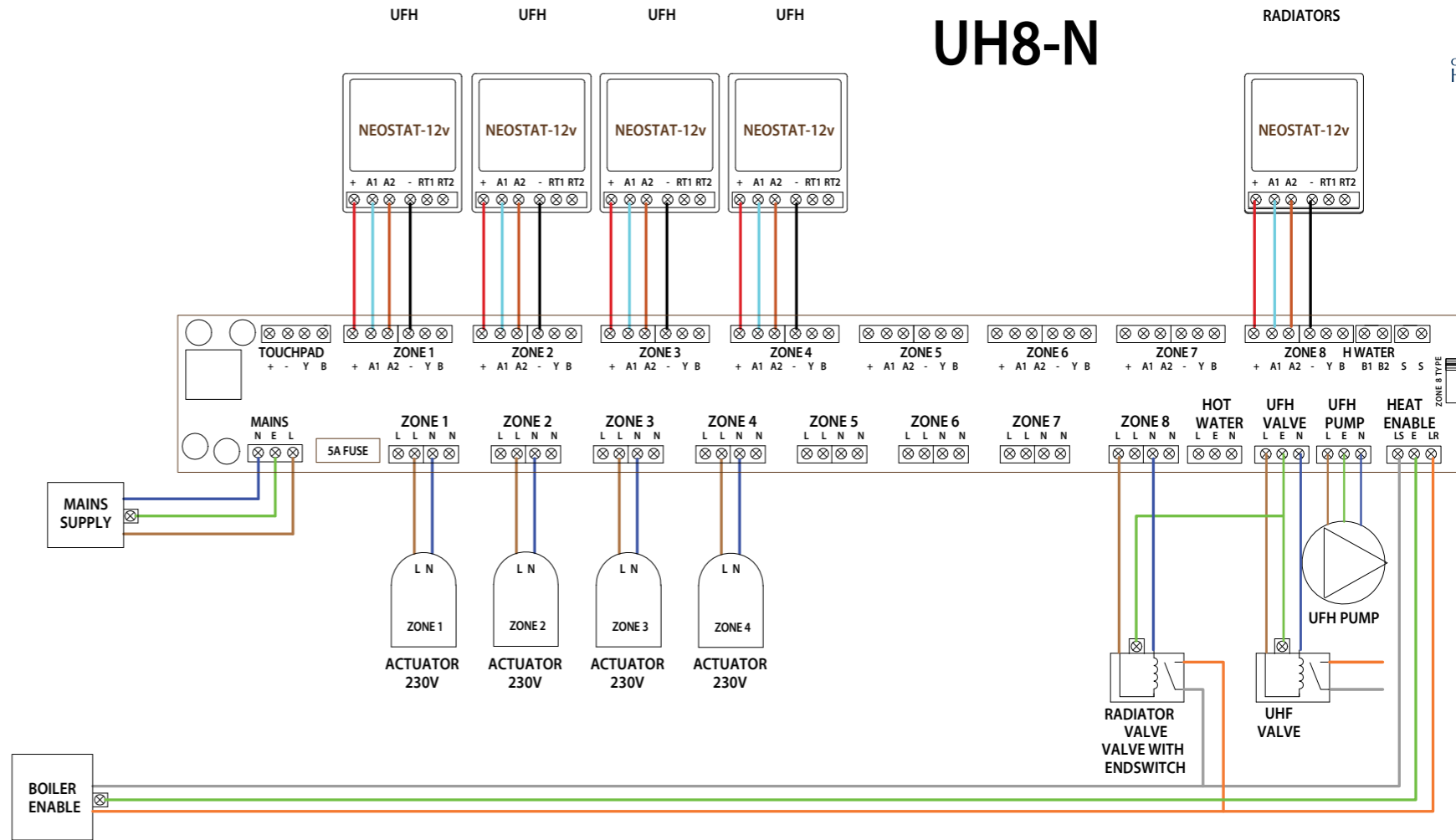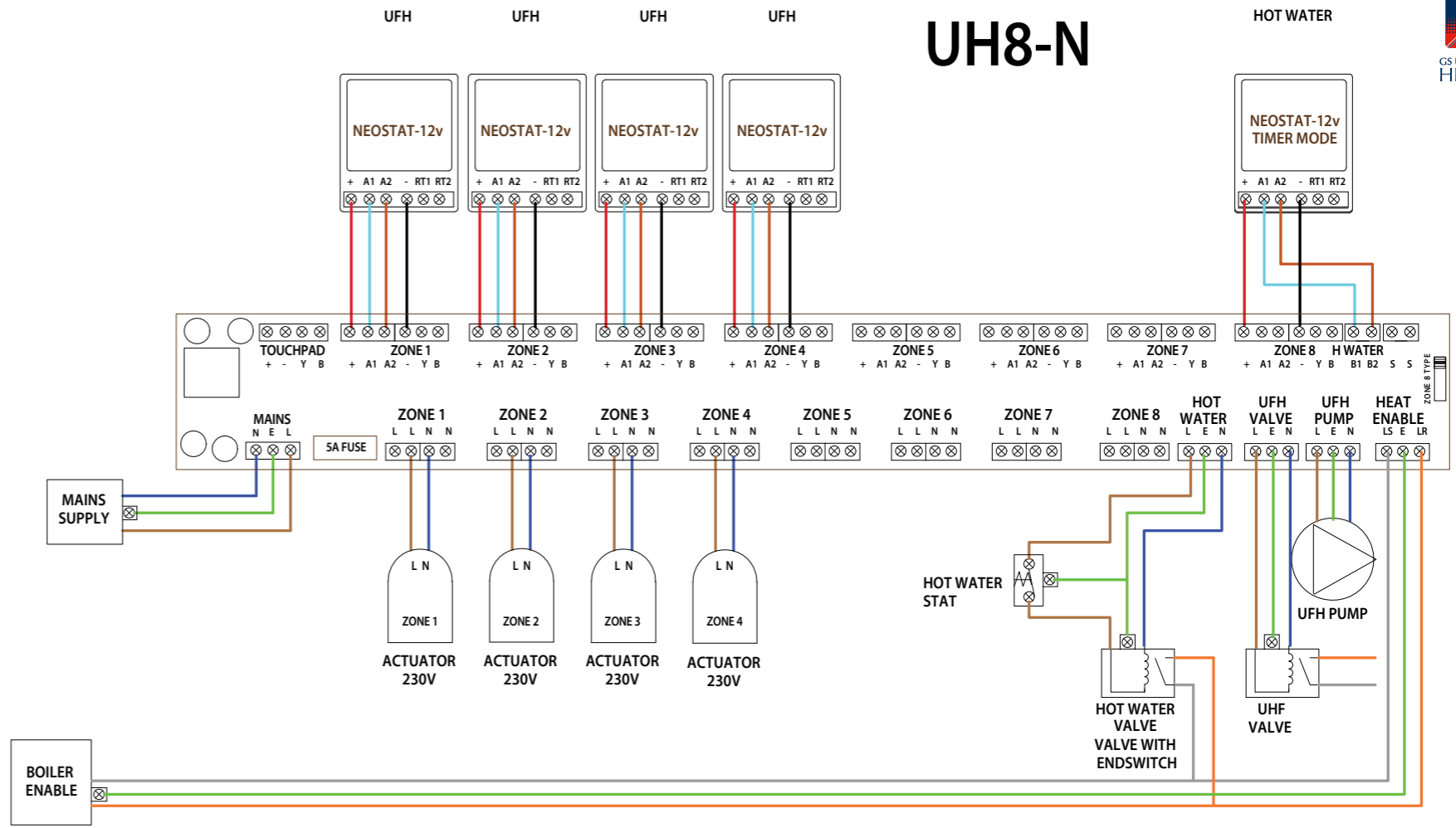
LIVE

SWITCH LIVE

NEUTRAL

EARTH

END SWITCH AND
BOILER ENABLE

POSITIVE

NEGATIVE

A1/B1

A2/B2

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### Diagram labels

UFH   UFH   UFH   UFH      HOT WATER

NEOSTAT-12v   NEOSTAT-12v   NEOSTAT-12v   NEOSTAT-12v      NEOSTAT-12v TIMER MODE

+ A1 A2 - RT1 RT2

TOUCHPAD   ZONE 1   ZONE 2   ZONE 3   ZONE 4   ZONE 5   ZONE 6   ZONE 7   ZONE 8   H WATER

MAINS N E L   5A FUSE   ZONE 1 L L N N   ZONE 2 L L N N   ZONE 3 L L N N   ZONE 4 L L N N   ZONE 5 L L N N   ZONE 6 L L N N   ZONE 7 L L N N   ZONE 8 L L N N   HOT WATER L E N   UFH VALVE L E N   UFH PUMP L E N   HEAT ENABLE LS E LR

MAINS SUPPLY

ZONE 8 TYPE

L N ZONE 1   L N ZONE 2   L N ZONE 3   L N ZONE 4

ACTUATOR 230V   ACTUATOR 230V   ACTUATOR 230V   ACTUATOR 230V

HOT WATER STAT

UFH PUMP

HOT WATER VALVE VALVE WITH ENDSWITCH

UHF VALVE

BOILER ENABLE

GS UNDERFLOOR HEATING

## Wiring Diagram – Connecting Multiple UH8-N's

**Using BELDEN 9538 cable on the Heatmiser Network**

When using this cable make sure the shield drain wire (the silver unshielded wire) is connected

to earth at the UH8-N.

**Using CAT5-FTP cable on the Heatmiser Network**

Generally CAT5 cable comes in 3 types:
1. CAT5-UTP (unshielded)
2. CAT5-FTP (shielded lower cost)
3. CAT5-STP (shielded higher cost)

**For the Heatmiser network you should use CAT5-FTP - This is SHIELDED CAT5 or CAT5E**

*FTP stands for foil screened twisted pair*

The network uses digital communications between the thermostats and Touchpad.

This digital comms line needs to be protected from interference and the CAT5-FTP does this in 2 ways:

1. The cable is shielded from outside interference .
2. The cables are twisted around each other in pairs.

Connect as follows:

| | |
|---|---|
| Brown to + | Brown/white to – |
| Blue to B | Blue/white to Y |
| Orange to A1 | Orange/white to A2 |
| Green to B1 | Green/white to B2 (Slimline HW-N and Touch HW-N Only) |

Each set of connections forms a twisted pair in the cable canceling out any interference to or from the cables.
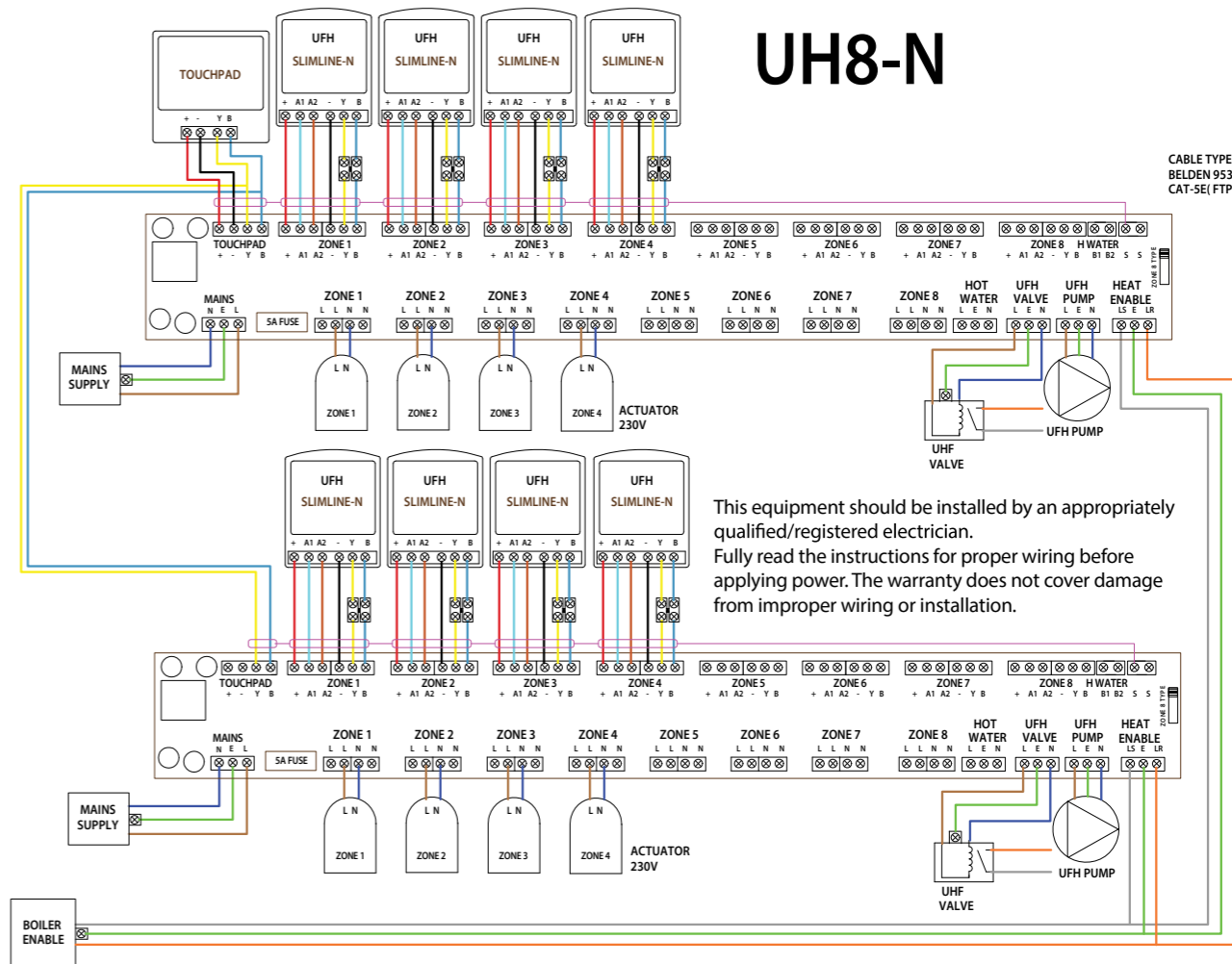
If your cable colours are different, make sure you use a twisted pair for each of the following:

1. + & -
2. A1 & A2
3. B1 & B2
4. Y & B

When using this cable make sure the shield drain wire (the silver unshielded wire) is connected to earth at the UH1 end.
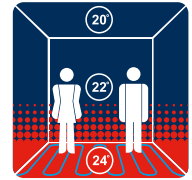
# UH8-N



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