THISION L PLUS

- Commercial wall-hung boiler

- Single boiler 60 to 200 kW

- Cascade solution up to 8 boilers

- Cascade solution up to 1600 kW

- Boiler pump(s) and cascade controller integrated

- External controls (accessory) by on/off, 0-10V or eBus to: Modbus,BACnet, KNX, LONworks

System THISION L Plus with one variable temperature heating circuit, one constant temperature circuit control and one DHW circuit by 3-way valve with Clip In 3 Zone.
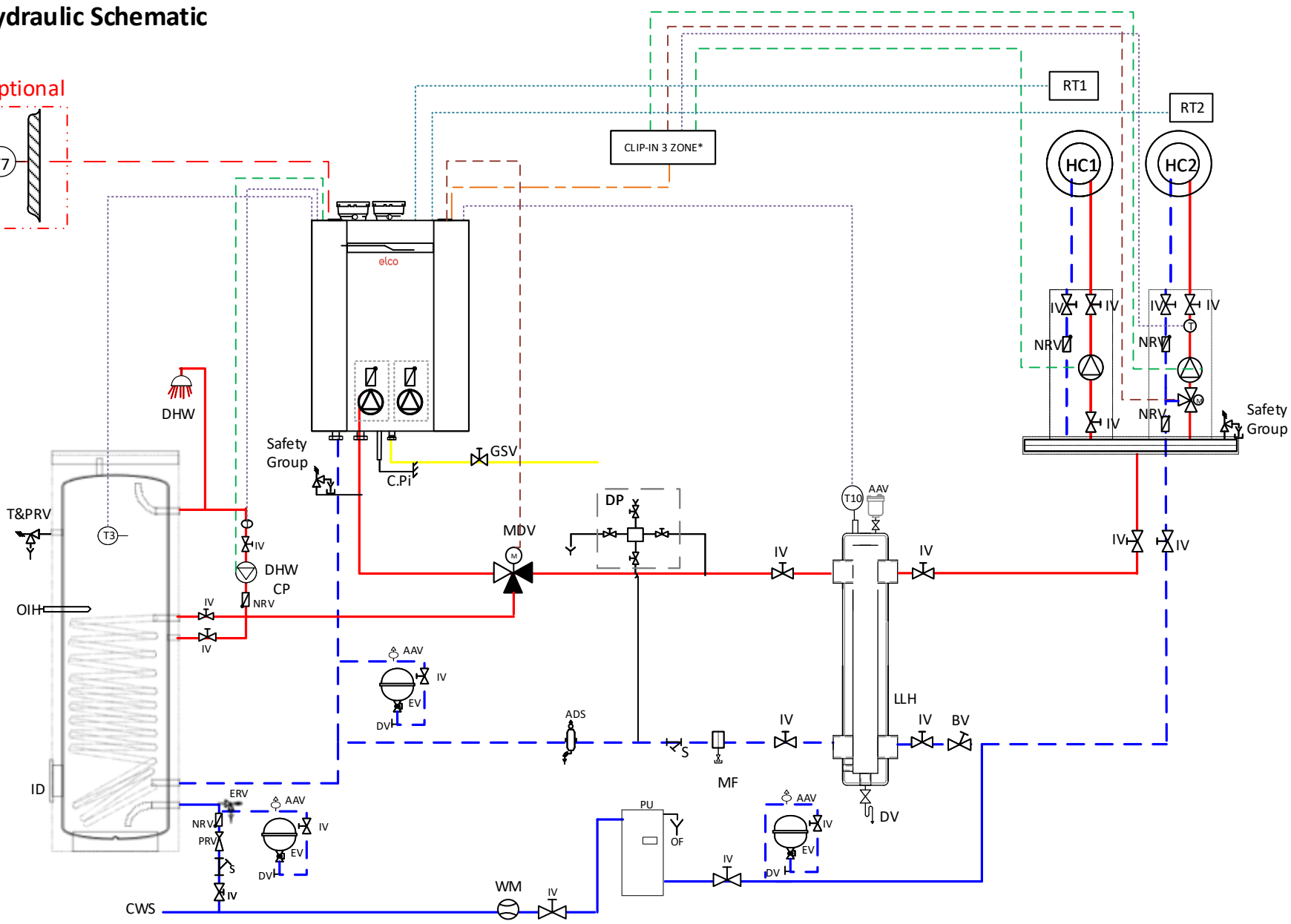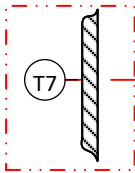
The condensing gas boiler THISION L PLUS operates on the heating circuit with adapted flow temperature corresponding to the outside temperature.

A plate heat exchanger or low loss header provide hydraulic separation between the primary and the secondary circuits.

The THISION L PLUS can control the constant temperature heating zone and variable temperature heating zone by the Clip-In 3 zone manager

Elco_Th_UK_EN_25: Elco Thision L Plus + 1 Mixing circuit + 1 Direct circuit +1 Domestic hot water + Low loss header

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Hydraulic Schematic

Legend:

	Gas
	Return
	Flow
	Sensor
	BUS connection cable
	Pump cable
	Optional components
	Mixing valve cable

AAV	Automatic air vent
ADS	Air dirt separator
BV	Balancing valve
C.Pi	Condensing pipe
Ch.P	DHW Charging Pump
CP	DHW Re-circulating Pump
CWS	Cold water supply
DP	Dosing pot
DV	Drain valve
ERV	Expansion relief valve
EV	Expansion vessel
GSV	Gas shut off valve
HC	Heating Circuit
ID	Inspection door
IV	Isolation valve
LLH	Low loss header
MDV	Motorised diverter valve
MF	Dirt separator magnetic filter
NRV	Non return valve
OF	Overflow pipe
OIH	Optional immersion heater
PU	Pressurisation unit
RT1/RT2	Room thermostat (on/off)
S	Strainer
T&PRV	Temperature and pressure relief valve
T	Flow sensor
T10	Common sensor flow
T7	Outdoor sensor
WM	Water meter

CLIP-IN 3 ZONE*: optional, to be installed inside boiler control box

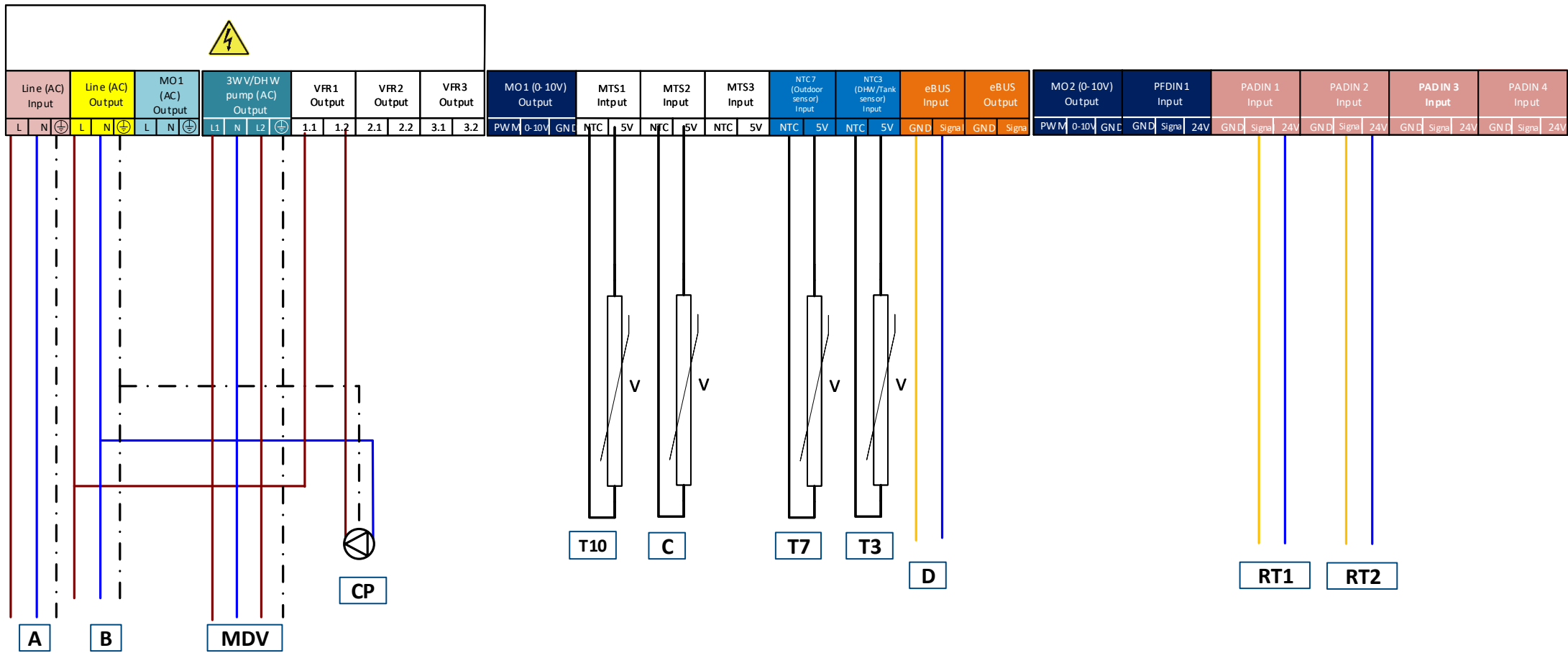**Elco_Th_UK_EN_25: Elco Thision L Plus + 1 Mixing circuit + 1 Direct circuit +1 Domestic hot water + Low loss header**

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Electrical connections

Line (AC) Input			Line (AC) Output			MO1 (AC) Output			3WV/DHW pump (AC) Output				VFR1 Output		VFR2 Output		VFR3 Output	
L	N	⏚	L	N	⏚	L	N	⏚	L1	N	L2	⏚	1.1	1.2	2.1	2.2	3.1	3.2

MO1 (0-10V) Output			MTS1 Intput		MTS2 Input		MTS3 Input		NTC7 (Outdoor sensor) Input		NTC3 (DHW/Tank sensor) Input		eBUS Input		eBUS Output	
PWM	0-10V	GND	NTC	5V	NTC	5V	NTC	5V	NTC	5V	NTC	5V	GND	Signa	GND	Signa

MO2 (0-10V) Output			PFDIN1 Input			PADIN 1 Input			PADIN 2 Input			PADIN 3 Input			PADIN 4 Input		
PWM	0-10V	GND	GND	Signa	24V	GND	Signa	24V	GND	Signa	24V	GND	Signa	24V	GND	Signa	24V

Labels: T10, C, T7, T3, D, RT1, RT2, CP, A, B, MDV

Legend:

A : Main power supply (230V @50Hz)

B : Clip In power (230V @50Hz)

MDV : Motorised diverter Valve (230/120 VAC, 1A max)

CP: DHW re- circulating pump (230 VAC, 2A max)

T10: Common flow temperature sensor (10KΩ)

C : DHW re-circulating temperature sensor (10KΩ)

T3: DHW temperature sensor(10KΩ)

D : Clip-In 3 zone

RT1: Room thermostat (On/Off)

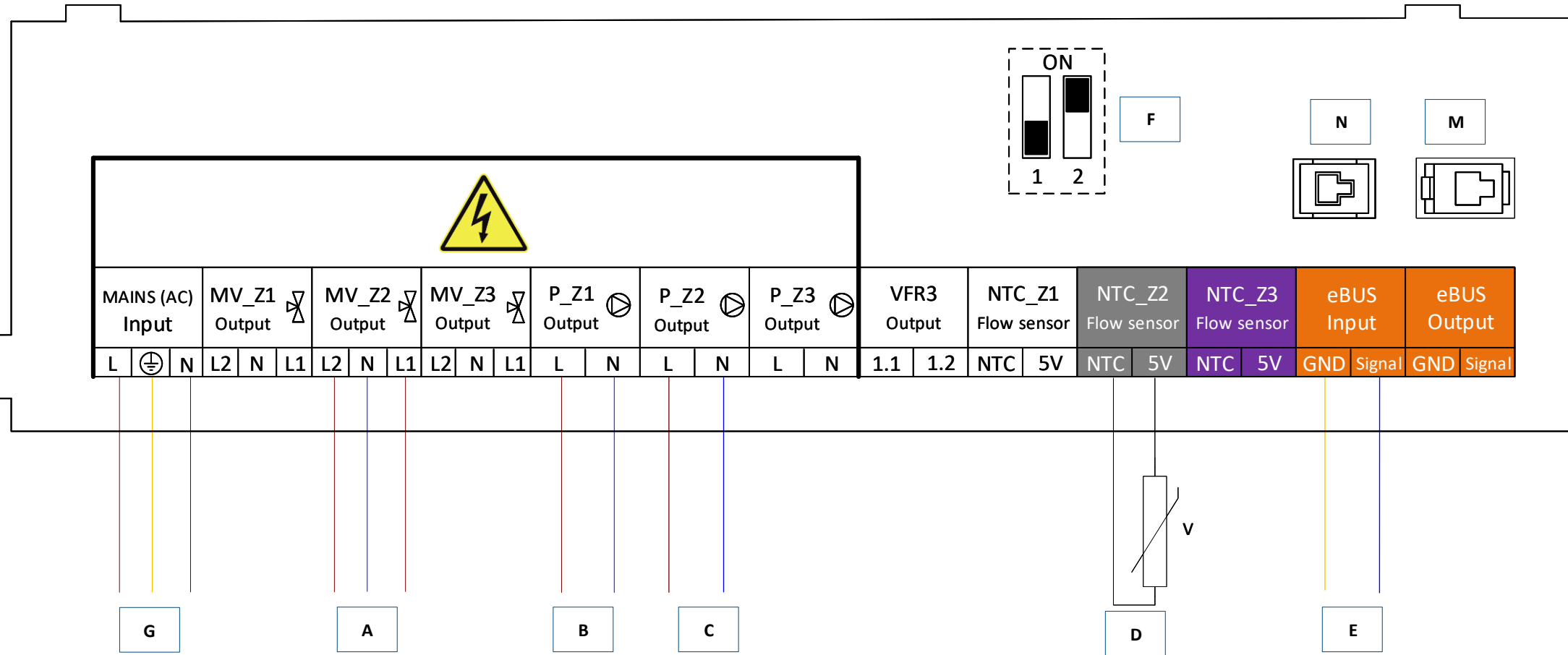**RT2:** Room thermostat (On/Off)

T7 : Outdoor sensor (optional)(1KΩ)

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Clip-in 3 zone manager connection

MAINS (AC) Input			MV_Z1 Output			MV_Z2 Output			MV_Z3 Output			P_Z1 Output		P_Z2 Output		P_Z3 Output		VFR3 Output		NTC_Z1 Flow sensor		NTC_Z2 Flow sensor		NTC_Z3 Flow sensor		eBUS Input		eBUS Output	
L	⏚	N	L2	N	L1	L2	N	L1	L2	N	L1	L	N	L	N	L	N	1.1	1.2	NTC	5V	NTC	5V	NTC	5V	GND	Signal	GND	Signal

ON 1 2 — F

N   M

G   A   B   C   D   E

Legend:

A : Mixing Valve HC2
B : Heating circuit pump HC1
C : Heating circuit pump HC2

D: Flow sensor HC2
E: Clip In connection to boiler Ebus Input
F: DIP-switch 2 must be set in ON position
G: Main power connection to boiler board

MV: Mixing valves
P_Z: Heating Circuit Pumps
NTC: Zone flow sensor
M: Main PCB Servicetool *(only for Service)*
N: Connection Clip-in *(only for Service)*

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Parameter List

	Menu	Parameter	Description	To be adjusted	Range	Factory setting
Boiler Parameter	Boiler configuration	0.2.0	Undefined Single boiler Master boiler + cascade Slave boiler 1 Slave boiler 2 Slave boiler 3 Slave boiler 4 Slave boiler 5 Slave boiler 6 Slave boiler 7	Single boiler	0-10	0
	MTS1 input	24.6.0	Common flow sensor (T10)	1	0-8	1
	PADIN1 input	24.6.4	Room thermostat HC1	1	0-9	0
	PADIN2 input	24.6.5	Room thermostat HC2	2	0-9	0
	Thermoregulation	24.4.0	0 = OFF, 1 = ON	up to user	0-1	1
	Hydraulic scheme	7.2.0	20= Undefined 21= 1 mix zone 22= 2 direct zone 23= 1 direct zone + 1 mix 24= 2 mix zone 25= 3 direct zone 26= 2 direct zone + 1 mix zone 27= 1 direct zone + 2 mix zone 28= 3 mix zone	23	20-28	20
Zone 1 Parameter	T Day	4.0.0	Room temperature set point for day period	up to user	10- 30 °C	21
	T Night	4.0.1	Room temperature set point for night period	up to user	10- 30 °C	16
	T set Z1	4.0.2	Temperature setpoint zone 1	up to user	40°C to 90°C 20°C to 45°C	85 20
	Zone temperature range	4.2.0	0 = Low Temp (LT) 1 = High Temp (HT)	1	0-1	1
	Thermoregulation	4.2.1	0 = Fix Flow T 1 = Basic Thermoregulation 2 = Room T Only 3 = Outdoor T Only 4 = Room+Outdoor T	3	0-4	0
	Slope	4.2.2		up to user	LT: From 0.2 - 1.0 HT: From 1.0 - 3.5	0.6LT 1.3HT
	Max T	4. 2. 5	Zone 1 Maximum Flow Temperature	up to user	LT: From 20°C to 45°C HT: From 20°C to 90°C	45°C 85°C
	Min T	4. 2. 6	Zone 1 minimum Flow Temperature	up to user	LT: From 20°C to 45°C HT: From 40°C to 90°C	25°C 40°C
	Quick night setback	4.2.8	0 = OFF, 1 = ON	up to user	0 - 1	0

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Parameter List

	Menü	Parameter	Description	To be adjusted	Range	Factory setting
Zone 2 Parameter	T Day	5.0.0	Room temperature set point for day period	up to user	10- 30 °C	21
	T Night	5.0.1	Room temperature set point for night period	up to user	10- 30 °C	16
	T set Z2	5.0.2	Temperature setpoint zone 2	up to user	40°C to 90°C / 20°C to 45°C	85 / 20
	Zone temperature range	5.2.0	0 = Low Temp (LT) / 1 = High Temp (HT)	1	0 - 1	1
	Thermoregulation	5.2.1	0 = Fix Flow T / 1 = Basic Thermoregulation / 2 = Room T Only / 3 = Outdoor T Only / 4 = Room+Outdoor T	3	0 - 4	0
	Slope	5.2.2		up to user	LT: From 0.2 - 1.0 / HT: From 1.0 - 3.5	0.6LT / 1.3HT
	Max T	5.2.5	Zone 2 Maximum Flow Temperature	up to user	LT: From 20°C to 45°C / HT: From 20°C to 90°C	45°C / 85°C
	Min T	5.2.6	Zone 2 minimum Flow Temperature	up to user	LT: From 20°C to 45°C / HT: From 40°C to 90°C	25°C / 40°C
	Quick night setback	5.2.8	0 = OFF, 1 = ON	up to user	0 - 1	0
DHW Parameter	DHW comfort Function	24.5.1	0= Disable / 1 = Time based / 2= always Active	up to user	0-2	2
	Boiler DHW mode	24.5.3	0= CH only / 1= Storage with NTC / 2= Storage with Thermostat	1	0-2	0
	VFR1 output	24.7.1	DHW re-circulating pump	4	0-11	0
	DHW Priorty	24.5.9	Absolute / Shifting / None	up to user	0-2	0
	Boiler DHW Circulating Pump Release	24.5.7	Release / Time Program / Special time program	up to user	0-2	0
	MTS2 input	24.6.1	DHW Re-circulation sensor	4	0-8	0
	Other	24.20.0	DHW modulation set point	up to user	50 - 85 °C	70°C

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