

#### Luna Duo-tec MP/MP+ Installation schemes



October 2017



#### Index Installation schemes

Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- DHW tank with solar integration	
Hydraulic scheme	4
Electric scheme for control and regulation	5
Electric scheme-connection	6
Configuration	7
Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- DHW tank. System control 0-10V (not provided)	
Hydraulic scheme	8
Electric scheme for control and regulation	9
Electric scheme-connection	10
Configuration	11
Cascade Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- DHW tank (after hydraulic separator)	
Hydraulic scheme	13
Electric scheme for control and regulation	14
Electric scheme-connection	15
Configuration	16
Cascade Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- DHW tank (after hydraulic separator) System control 0-10 V (not provided)	
Hydraulic scheme	18
Electric scheme for control and regulation	19
Electric scheme-connection	20
Configuration	21
Cascade Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- DHW tank (after hydraulic separator) and solar integration	
Hydraulic scheme	24
Electric scheme for control and regulation	25
Electric scheme-connection	26
Configuration	27
Cascade Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1)- 1 Low temperature zone (LT2) DHW tank (after hydraulic separator) and solar integration	
Hydraulic scheme	30
Electric scheme for control and regulation	31
Electric scheme-connection	32
Configuration	33
Cascade Luna Duo-tec MP/MP+ - 1 high temperature direct circuit (HT1)- 2 Low temperature zones (LT2-LT3) DHW tank (after hydraulic separator) and solar integration	76
Electric scheme for control and rogulation	טכ דב
Electric scheme-connection	סב סב
	טב סר
0-10 Volt temperature control through Extension Module ( EM) ACLL 2 550 or AV/S 75	c N EC
0-10 voit temperature control through extension module ( CM) AUD 2.550 01 AVS 7.5	40











### Installation scheme

#### Luna Duo-tec MP/MP+ N°1 High temperature zone (HT1) / DHW storage tank / Solar DHW integration

#### Accessories

- N°1 AGU 2.550 for management of solar mainfolds
- N°1 OUTDOOR SENSOR (QAC34)
- N°2 NTC SENSOR for STORAGE TANK (KHG 71407681)
- N°1 SOLAR COLLECTORS SENSOR for clip-in Pt1000 (LNC71000004)

#### Connections (for details refer to the manuals)

- Connect the CLIP-IN AGU 2.550-A2 to the boiler in the connector X41 (Paragraph 4 manual AGU 2.550).
- Set the addresses of additional CLIP-IN via the switches (Dip switch):
  - AGU 2.550-A2: 1 OFF ; 2 ON (extension module 1)
- Connect to the boiler the following components:

ROOM THERMOSTAT (T1)	Terminal block M1 - terminals 1-2	
DHW upper NTC sensor (SA)	Terminal block M2 - terminals 9-10	
Outdoor sensor (ES)	Terminal block M2 - terminals 4-5	
	-	
DHW storage tank pump (PA)	Terminal block M3 - terminals 4-5	
Zone pump (P1)	Terminal block M3 - terminals 6-7	

 Connect the components of the solar system to the AGU 2.550-A2 (Paragraph 4.1.2 of the AGU 2.550 manual for management of mixed systems and solar):

Solar pump (PS)	QX23-N
DHW lower NTC sensor (SB)	BX22 - M
Solar collectors sensor (SC)	BX21-M

#### Parameters setting

MENU	PARAMETER	VALUES TO SET	DESCRIPTION
Configuration	5710 (P41)	ON (1)	Enable Heating circuit 1 (High temperature)
Configuration	5715 (P42)	OFF (0)	Disable Heating circuit 2
Configuration	5977 (P47)	Room Thermostat CR1 (18)	Enable RT on terminal M1 (1-2)
Configuration	6020 (P48)	DHW Solar (6)	Enable the extension module AGU 2.550-A2 for the solar system

#### The parameters of the **Heating circuit 1** ranging from **710** to **900** and are to be modified according to the needs.

MENU	PARAMETER	VALUES TO SET	DESCRIPTION
Heating circuit 1	720 (PO3)	your choice	Climatic curve
Heating circuit 1	740 (P06)	your choice (40-45°C)	Minimum heating flow
Heating circuit 1	741 (P07)	your choice (55-60°C)	Maximum heating flow
Heating circuit 1	742 (P08)	Same as 741	Maximum heating flow with room thermostat











### Installation scheme

# Luna Duo-tec MP/MP+ / N°1 high temperature zone (HT1) / DHW storage tank. System control 0-10 (not provided)

#### Accessories

- N°1 AGU 2.550 for system control 0-10 V
- N°1 OUTDOOR SENSOR (QAC34)
- N°1 NTC SENSOR for STORAGE TANK (KHG 71407681)

#### Connections (for details refer to the manuals)

- Connect the CLIP-IN AGU 2.550-A1 to the boiler in the connector X41 (Paragraph 4 manual AGU 2.550).
- Set the addresses of additional CLIP-IN via the switches (Dip switch):
- AGU 2.550-A1: 1 OFF ; 2 ON (extension module 1)

#### • Connect to the boiler the following components:

DHW upper NTC sensor (SA)	Terminal block M2 - terminals 9-10	
Outdoor sensor (ES)	Terminal block M2 - terminals 4-5	
DHW storage tank pump (PA)	Terminal block M3 - terminals 4-5	
Zone pump (P1)	Terminal block M3 - terminals 6-7	

For details about 0-10 Volt temperature control through Extension Module (EM) AGU 2.550 or AVS 75 see pag. 12



#### 0-10 Volt temperature control through Extension Module (EM) AGU 2.550 or AVS 75

The heat request is not performed through a room thermostat, but the boiler flow temperature is managed by a 0-10 Volt device connected to **input H2-M of the EM**.



#### Parameters Setting

**NOTE**: the parameters (from 6020 to 6052) are related to the fact that the EM is set as Extension Module 1 (swich position **1:ON**, **2:OFF**). If the EM address is 2 or 3, consider the related parameters.

MENU	PARAMETER	VALUES TO SET	DESCRIPTION
Configuration	5710	OFF	Disable Heating circuit 1
Configuration	5715	OFF	Disable Heating circuit 2
Configuration	5721	OFF	Disable Heating circuit 3
Configuration	5977	None	Disable RT on terminal board M1
Configuration	6020	Multifunctional	Enable EM 1
Configuration	6046	User Request CH1 10V	Input configuration H2-M
Configuration	6049	0,5 V	Signal description (Min. Temp.)
Configuration	6050	250	Signal description (Min. Temp.)
Configuration	6051	10 V	Signal description (Max. Temp.)
Configuration	6052	800	Signal description (Max. Temp.)

The heating circuits 1-2-3 must be disabled.

With parameters 6049-6050 25°C is defined as minimum temperature for a 0-0,5 V signal. With parameters 6051-6052 80°C is defined as maximum temperature for a 10 V signal.

#### NOTE

If required in the system:

MENU	PROGRAM LINE	VALUES TO BE SET	DESCRIPTION
Configuration	5890	Secondary circuit HC1 Q15	Configure the pump on terminals 6-7 of M3 in the boiler
Configuration	5892	DHW control element Q3	Configure the DHW pump on terminals 4-5 of M3 in the boiler
Configuration	6030	Alarm output K10	Configure the alarm signal on output QX21-N of AGU 2.550-A1







# Installation scheme





Γ	
SFC	CASCADE FLOW SENSOR
SRC	CASCADE RETURN SENSOR
Τ1	ROOM THERMOSTAT DIRECT ZONE (AT)
Ρ1	DIRECT ZONE PUMP (AT)
ΡA	DHW TANK PUMP

FINTERFACE- OCI345	TE UNIT THINK	JAL SENSOR	ANK SENSOR	
BUS KIT INT	REMOTE UI	EXTERNAL 5	DHW TANK	
AO	RC	ES	SA	

Cascade Luna Duo-tec MP/MP+ - 1 High temperature direct circuit (HT1) - DHW tank (after hydraulic separator)

![](_page_15_Picture_0.jpeg)

Luna Duo-tec MP/MP+ in cascade / N° 1 High Temperature zone (HT1) / DHW storage tank after hydraulic separator

#### Accessories

- INTERFACE KIT OCI 345 (1 for each boiler)
- N°1 OUTDOOR SENSOR QAC34 (7104873)
- N°2 CONTACT SENSOR QAD36 (KHG 71407891)
- N°1 NTC SENSORS FOR STORAGE TANK (KHG 71407681)
- N°1 REMOTE CONTROL THINK (QAA75)

#### Connections (for details refer to the manuals)

- In each boiler, the interface kit OCI 345-A0 must be connected through the flat cable to the connector X30 of the electronic PCB.
- Connect the OCI 345-A0 via the connectors MB and DB.

Attention: MB must be connected with MB, as well as DB with DB (Paragraph 3.3 manual AVS 75, pag. 5).

• The elements to be connected to the MASTER boiler are the following:

Outdoor sensor (ES)	Terminals 4-5 of terminal board M2 (common)
DHW upper sensor (SA)	Terminals 9-10 of terminal board M2
HT1 zone pump (P1)	Terminals 6-7 terminal board M3
DHW tank pump (PA)	Terminals 4-5 terminal board M3
Cascade flow sensor (SFC)	Terminals 5-7 terminal board M2
Cascade return sensor (SRC)	Terminals 5-6 terminal board M2
Direct zone room thermostat (T1)	Terminals 1-2 terminal board M1

#### Parameters setting

While parameterizing a boiler, it is necessary to take off the power supply to the other ones.

#### MASTER BOILER (Default: Address 1)

- Connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2)
- Enter the SPECIALIST menu (if a **PASSWORD** is required: **10101**)

MENU	PARAMETER	VALUE	DESCRIPTION
Control Unit	40	Room Unit 1	Setting of control panel as room sensor
Control Unit	42	All the heating circuits	Assignment of heating circuits
Configuration	5710	ON	Enable Heating Circuit 1
Configuration	5715	OFF	Disable Heating Circuit 2
Configuration	5721	OFF	Disable Heating Circuit 3
Configuration	5736	OFF	Disable DHW on single boiler
Configuration	5931	Common flow sensor B10	Cascade flow sensor on master boiler
Configuration	5932	Cascade return sensor B70	Cascade return sensor on master boiler
Configuration	5977	Room thermostat CR1	Enable TA on terminal board M1 (1-2)
LPB	6600	1	Device address
LPB	6630	Always	Identification of master boiler
LPB	6640	Autonomous	Setting of master cascade clock

#### SLAVE BOILER (2)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	2	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

**IMPORTANT:** once the parameterization is ended, take off the power supply to get the addresses, connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2), switch on and set the parameters for Heating Circuit 1 (parameters from 710 to 900), according to requirements. In particular, consider the follow parameters:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	720	Your choice (1,5-1,8)	Climatic curve
Heating Circuit 1	740	45°C	Min. flow value
Heating Circuit 1	741	Your choice (60°-65°C)	Max. flow value
Heating Circuit 1 742	740	Same of 741	With Room Thermostat
	-	Without Room Thermostat	
Heating Circuit 1	750	-	Cancel influence room temperature
Heating Circuit 1	760	-	Cancel switching off differential

For the functioning on specific time slots, set on AUTOMATIC the Functioning Mode of heating circuits (Radiator/tap key and Heating Circuit Functioning Mode heading) and set the Hour Programme of the interested circuit (Menu key).

![](_page_17_Picture_0.jpeg)

![](_page_17_Figure_2.jpeg)

![](_page_18_Figure_2.jpeg)

![](_page_19_Picture_0.jpeg)

![](_page_19_Figure_2.jpeg)

### Installation scheme

## Luna Duo-tec MP/MP+ in cascade / N° 1 High Temperature zone (HT1) / DHW storage tank after hydraulic separator / System control 0-10 V (not provided)

#### Accessories

- N°1 AVS 75 for cascade management
- INTERFACE KIT OCI 345 (1 for each boiler)
- N°1 OUTDOOR SENSOR QAC34 (7104873)
- N°2 CONTACT SENSOR QAD36 (KHG 71407891)
- N°1 NTC SENSORS FOR STORAGE TANK (KHG 71407681)
- N° 1 REMOTE CONTROL THINK (QAA75)

#### Connections (for details refer to the manuals)

- In each boiler, the interface kit OCI 345-A0 must be connected through the flat cable to the connector X30 of the electronic PCB.
- Connect the OCI 345-A0 via the connectors MB and DB.

Attention: MB must be connected with MB, as well as DB with DB (Paragraph 3.3 manual AVS 75, pag. 5).

- The AVS 75-A1 module must be connected to the master boiler (boiler terminal board M2, terminals 2-3). Consider the polarity (Paragraph 3.1 manual AVS 75, pag. 3).
- Set the additional module AVS 75-A1 address via the switches (Dip switch):
  - AVS 75: 1 ON ; 2 OFF (extension module 1)

#### IMPORTANT: if steady, the AVS 75 green led signals that the bus connections are correctly set

• The elements to be connected to the MASTER boiler are the following:

Outdoor sensor (ES)	Terminals 4-5 of terminal board M2 (common)
DHW upper sensor (SA)	Terminals 9-10 of terminal board M2

 Connect the components of the cascade to the AVS 75 module - A1 (Paragraph 3.2 manual AVS 75 for the management of boilers in cascade)

HT1 zone pump (P1)	QX21 - N
DHW tank pump (PA)	QX22 - N
Cascade flow sensor (SFC)	BX21-M
Cascade return sensor (SRC)	BX22-M
External system manager 0-10 V	H2-M
Signal lamp (LA)	QX23-N

![](_page_21_Picture_0.jpeg)

#### Parameters setting

While parameterizing a boiler, it is necessary to take off the power supply to the other ones.

### MASTER BOILER (Default: Address 1) Connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2)

- Enter the SPECIALIST menu (if a **PASSWORD** is required: **10101**) •

MENU	PARAMETER	VALUE	DESCRIPTION
Control Unit	40	Room Unit 1	Setting of control panel as room sensor
Control Unit	42	All the heating circuits	Assignment of heating circuits
Configuration	5710	OFF	Disable Heating Circuit 1
Configuration	5715	OFF	Disable Heating Circuit 2
Configuration	5721	OFF	Disable Heating Circuit 3
Configuration	5736	OFF	Disable DHW on single boiler
Configuration	5977	None	Disable TA on terminal board M1 (1-2)
Configuration	6020	Multifunctional	Enable the extension module 1 for the cascade
Configuration	6030	Heating circuit 1 Q2 pump	Pump HT1 zone (P1) on output QX21-N of AVS 75-A1
Configuration	6032	Alarm output K10	Relay output QX23-N of AVS 75-A1
Configuration	6040	Cascade flow sensor B10	Cascade flow sensor on input BX21 – M of AVS 75-A1
Configuration	6041	Cascade return sensor B70	Cascade return sensor on input BX22 – M of AVS 75-A1
Configuration	6046	User request VK1 10 V	Enabling TA of the heating circuit 1 in input H2-M of the extension module 1
Configuration	6049	0,5 V	Signal description (Min. Temp.)
Configuration	6050	250	Signal description (Min. Temp.)
Configuration	6051	10 V	Signal description (Max. Temp.)
Configuration	6052	800	Signal description (Max. Temp.)
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings
LPB	6600	1	Device address
LPB	6630	Always	Identification of master boiler
LPB	6640	Autonomous	Setting of master cascade clock

#### SLAVE BOILER (2)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	2	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

**IMPORTANT:** once the parameterization is ended, take off the power supply to get the addresses, connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2), switch on and set the parameters for Heating Circuit 1 (parameters from 710 to 900), according to requirements. In particular, consider the follow parameters:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	720	Your choice (1,5-1,8)	Climatic curve
Heating Circuit 1	740	45°C	Min. flow value
Heating Circuit 1	741	Your choice (60°-65°C)	Max. flow value
Heating Circuit 1 742	745	Same of 741	With Room Thermostat
	/42	-	Without Room Thermostat
Heating Circuit 1	750	-	Cancel influence room temperature
Heating Circuit 1	760	-	Cancel switching off differential

For the functioning on specific time slots, set on AUTOMATIC the Functioning Mode of heating circuits (Radiator/tap key and Heating Circuit Functioning Mode heading) and set the Hour Programme of the interested circuit (Menu key).

![](_page_23_Picture_0.jpeg)

![](_page_23_Figure_2.jpeg)

![](_page_24_Figure_2.jpeg)

![](_page_25_Picture_0.jpeg)

![](_page_25_Figure_2.jpeg)

### Installation scheme

## Duo-tec MP/MP+ in cascade / N° 1 High Temperature zone (HT1) / DHW Storage tank after hydraulic separator / solar integration

#### Accessories

- N°1 AVS 75 for cascade management
- N°1 AGU 2.550 for management of solar system
- INTERFACE KIT OCI 345 (1 for each boiler)
- N°1 OUTDOOR SENSOR QAC34 (7104873)
- N°2 CONTACT SENSOR QAD36 (KHG 71407891)
- N°2 NTC SENSORS FOR STORAGE TANK (KHG 71407681)
- N° 1 REMOTE CONTROL THINK (QAA75)

#### Connections (for details refer to the manuals)

- In each boiler, the interface kit OCI 345-A0 must be connected through the flat cable to the connector X30 of the electronic PCB.
- Connect the OCI 345-A0 via the connectors MB and DB.
- Attention: MB must be connected with MB, as well as DB with DB (Paragraph 3.3 manual AVS 75, pag. 5).
- The AVS 75-A1 module must be connected to the master boiler (boiler terminal board M2, terminals 2-3). Consider the polarity (Paragraph 3.1 manual AVS 75, pag. 3).
- Connect the AGU 2.550-A2 module to the boiler in the X41 connector (Paragraph 4 manual AGU 2.550 for the management of mixed and solar plants).
- Set the extension module AVS 75 address via the switches (Dip switch):
  - AVS 75-A1: 1 ON; 2 OFF (extension module 1)
  - AGU 2.550-A2: 1 OFF ; 2 ON (extension module 2)

#### IMPORTANT: if steady, the AVS 75 green led signals that the bus connections are correctly set

• The elements to be connected to the MASTER boiler are the following:

Outdoor sensor (ES)	Terminals 4-5 of terminal board M2 (common)
DHW upper sensor (SA)	Terminals 9-10 of terminal board M2

• Connect the components of the cascade to the AVS 75 module (A1) (Paragraph 3.2 manual AVS 75 for the management of boilers in cascade)

HT1 zone pump (P1)	QX21-N
DHW tank pump (PA)	QX22 - N
Cascade flow sensor (SFC)	BX21-M
Cascade return sensor (SRC)	BX22-M
Direct zone room thermostat (T1)	H2-M

#### • Connect the components of the solar system to the AGU 2.550 module (A2) (Paragraph 4.1.1 manual AGU 2.550 for the management of mixed plants)

Solar pump (PS)	QX23-N
DHW lower sensor (SB)	BX22 - M
SOLAR COLLECTOR SENSOR (SC)	BX21-M

![](_page_27_Picture_0.jpeg)

#### Parameters setting

While parameterizing a boiler, it is necessary to take off the power supply to the other ones.

### MASTER BOILER (Default: Address 1) Connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2)

- Enter the SPECIALIST menu (if a **PASSWORD** is required: **10101**) •

MENU	PARAMETER	VALUE	DESCRIPTION
Control Unit	40	Room Unit 1	Setting of control panel as room sensor
Control Unit	42	All the heating circuits	Assignment of heating circuits
Configuration	5710	ON	Enable Heating Circuit 1
Configuration	5715	OFF	Disable Heating Circuit 2
Configuration	5721	OFF	Disable Heating Circuit 3
Configuration	5736	OFF	Disable DHW on single boiler
Configuration	5977	None	Disable TA on terminal board M1 (1-2)
Configuration	6020	Multifunctional	Enable the extension module 1 (AVS 75-A1) for the cascade
Configuration	6021	DHW solar	Enable the extension module 2 (AGU 2.550-A2) for the solar management
Configuration	6030	Heating circuit 1 Q2 pump	Pump HT1 zone (P1) on output QX21-N of AVS 75-A1
Configuration	6031	DHW Q3 actuator	DHW pump (PA) on output QX22-N of AVS 75-A1
Configuration	6040	Cascade flow sensor B10	Cascade flow sensor on input BX21 – M of AVS 75-A1
Configuration	6041	Cascade return sensor B70	Cascade return sensor on input BX22 – M of AVS 75-A1
Configuration	6046	Room Thermostat CR1	Enabling TA of the heating circuit 1 in input H2-M of the extension module 1 (AVS 75-A1)
comparation of the	OR None	(setting None without the TA connected to the terminals)	
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings
LPB	6630	Always	Identification of master boiler
LPB	6640	Autonomous	Setting of master cascade clock

#### SLAVE BOILER (2)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	2	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

#### SLAVE BOILER (N)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	Ν	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

**IMPORTANT:** once the parameterization is ended, take off the power supply to get the addresses, connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2), switch on and set the parameters for Heating Circuit 1 (parameters from 710 to 900), according to requirements. In particular, consider the follow parameters:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	720	Your choice (1,5-1,8)	Climatic curve
Heating Circuit 1	740	45℃	Min. flow value
Heating Circuit 1	741	Your choice (60°-65°C)	Max. flow value
Heating Circuit 1	742	Same of 741	With Room Thermostat
		-	Without Room Thermostat
Heating Circuit 1	750	-	Cancel influence room temperature
Heating Circuit 1	760	-	Cancel switching off differential

For the functioning on specific time slots, set on AUTOMATIC the Functioning Mode of heating circuits (Radiator/tap key and Heating Circuit Functioning Mode heading) and set the Hour Programme of the interested circuit (Menu key).

![](_page_29_Picture_0.jpeg)

![](_page_29_Figure_2.jpeg)

![](_page_30_Figure_2.jpeg)

![](_page_31_Picture_0.jpeg)

![](_page_31_Figure_2.jpeg)

Installation schemes

### Installation scheme

Duo-tec MP/MP+ in cascade / N° 1 High Temperature zone (HT1) / N° 1 Low Temperature zone (LT2) / DHW Storage tank after hydraulic separator / solar integration

#### Accessories

- N°1 AVS 75 for cascade management
- N°1 AVS 75 for mixed zone management
- N°1 AGU 2.550 for solar management
- INTERFACE KIT OCI 345 (1 for each boiler)
- N°1 OUTDOOR SENSOR QAC34 (7104873)
- N°3 CONTACT SENSOR QAD36 (KHG 71407891)
- N°2 NTC SENSORS FOR STORAGE TANK (KHG 71407681)
- N° 1 REMOTE CONTROL THINK (QAA75)

#### Connections (for details refer to the manuals)

- In each boiler, the interface kit OCI 345-A0 must be connected through the flat cable to the connector X30 of the electronic PCB.
- Connect the OCI 345-A0 via the connectors MB and DB.

#### Attention: MB must be connected with MB, as well as DB with DB (Paragraph 3.3 manual AVS 75, pag. 5).

- The AVS 75-A1 module must be connected to the master boiler (boiler terminal board M2, terminals 2-3). Consider the polarity (Paragraph 3.1 manual AVS 75, pag. 3).
- Connect the AGU 2.550-A3 module to the boiler in the X41 connector (Paragraph 4 manual AGU 2.550 for the management of mixed and solar plants).
- Set the extension module AVS 75 address via the switches (Dip switch):
  - AVS 75 (A1): 1 ON ; 2 OFF (extension module 1)
  - AVS 75 (A2): 1 OFF ; 2 ON (extension module 2)
  - AGU 2.550 (A3): 1 ON ; 2 ON (extension module 3)

#### IMPORTANT: if steady, the AVS 75 green led signals that the bus connections are correctly set.

The elements to be connected to the MASTER boiler are the following:

Outdoor sensor (ES)	Terminals 4-5 of terminal board M2 (common)
DHW upper sensor (SA)	Terminals 9-10 of terminal board M2

Connect the elements of the cascade to the AVS 75 module (A1) (Paragraph 3.2 manual AVS75 for the management of boilers in cascade).

HT1 zone pump (P1)	QX21-N
DHW tank pump (PA)	QX22-N
Cascade flow sensor (SFC)	BX21-M
Cascade return sensor (SRC)	BX22-M
HT1 zone room thermostat (T1)	H2 - M

• Connect the components of the BT2 zone to the AVS 75 module (A2) (Paragraph 3.2.1 manual AVS 75 for the management of mixed plants):

Mixing valve (V2)	QX21-N-QX22
LT2 zone pump (P2)	QX23-N
LT2 zone flow sensor (S2)	BX21 - M
LT2 zone room thermostat (T2)	H2 – M
Safety thermostat (TS2)	FX23 – L (put a jumper between the terminals EX21 – FX23)

ATTENTION: if the safety thermostat is not managed by the module, put a jumper between the terminals FX23-L.

![](_page_33_Picture_0.jpeg)

• Connect the components of the solar system to the AGU 2.550 module (A3) (Paragraph 4.1.1 manual AGU 2.550 for the management of mixed plants):

Solar pump (PS)	QX23-N
DHW lower sensor (SB)	BX22 - M
Solar collector sensor (SC)	BX21-M

#### Parameters setting

While parameterizing a boiler, it is necessary to take off the power supply to the other ones.

#### MASTER BOILER (Default: Address 1)

- Connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2)
- Enter the SPECIALIST menu (if a **PASSWORD** is required: **10101**)

MENIL	DADAMETED	VALLE	
MENO	FARAMETER	VALUL	DESCRIPTION
Control Unit	40	Room Unit 1	Setting of control panel as room sensor
Control Unit	42	All the heating circuits	Assignment of heating circuits
Configuration	5710	ON	Enable Heating Circuit 1
Configuration	5715	ON	Enable Heating Circuit 2
Configuration	5721	OFF	Disable Heating Circuit 3
Configuration	5736	OFF	Disable DHW on single boiler
Configuration	5977	None	Disable TA on terminal board M1 (1-2)
Configuration	6020	Multifunctional	Enable the extension module 1 (AVS 75-A1) for the cascade
Configuration	6021	Heating Circuit 2	Enable the extension module 2 (AVS 75-A2) for the management of LT2 zone
Configuration	6022	DHW Solar	Enable the extension module 3 (AVS 75-A3) for the solar management
Configuration	6026	CR Safety thermostat OR None	EX21 input of extension module 2 (AVS 75-A2), enabled as a protection of the LT2 zone (set None without Safety Thermostat on FX23-L)
Configuration	6030	Heating circuit 1 Q2 pump	Pump HT1 zone (P1) on output QX21-N (AVS 75-A1)
Configuration	6031	DHW Q3 actuator	DHW pump (PA) on output QX22-N (AVS 75-A1)
Configuration	6040	Cascade flow sensor B10	Cascade flow sensor on input BX21 – M (AVS 75-A1)
Configuration	6041	Cascade return sensor B70	Cascade return sensor on input BX22 – M (AVS 75-A1)
Configuration	6046	Room Thermostat CR1 OR None	Enabling TA of the heating circuit 1 in input H2-M of the extension module 1 (AVS 75-A1) (setting None without the TA connected to the terminals)
Configuration	6054	Room Thermostat CR2 OR None	Enabling TA of the heating circuit 2 in input H2-M of the extension module 2 (AVS 75-A2) (setting None without the TA connected to the terminals)
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings
LPB	6630	Always	Identification of master boiler
LPB	6640	Autonomous	Setting of master cascade clock

#### SLAVE BOILER (2)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	2	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

#### SLAVE BOILER (N)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	Ν	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS 75 manual for boiler cascade management, Paragraph 5.2)

**IMPORTANT**: once the parameterization is ended, take off the power supply to get the addresses, connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2), switch on and set the parameters for Heating Circuit 1 (parameters from 710 to 900) and Heating Circuit 2 (parameters from 1010 to 1200) according to requirements:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	720	Your choice (1,5-1,8)	Climatic curve
Heating Circuit 1	740	45°C	Min. flow value
Heating Circuit 1	741	Your choice (60°-65°C)	Max. flow value
Hosting Circuit 1	740	Same of 741	With Room Thermostat
	742	-	Without Room Thermostat
Heating Circuit 1	750	-	Cancel influence room temperature
Heating Circuit 1	760	-	Cancel switching off differential
Heating Circuit 2	1020	Your choice (0,8-1)	Climatic curve
Heating Circuit 2	1040	25°C	Min. flow value
Heating Circuit 2	1041	Your choice (40-45°C)	Max. flow value
Leasting Circuit 2	1042	Same of 1041	With Room Thermostat
Heating Circuit 2	1042	-	Without Room Thermostat
Heating Circuit 2	1050	-	Cancel influence room temperature
Heating Circuit 2	1060	_	Cancel switching off differential

For the functioning on specific time slots, set on AUTOMATIC the Functioning Mode of heating circuits (Radiator/tap key and Heating Circuit Functioning Mode heading) and set the Hour Programme of the interested circuit (Menu key).

![](_page_35_Picture_0.jpeg)

![](_page_35_Figure_2.jpeg)

![](_page_36_Figure_2.jpeg)

![](_page_37_Picture_0.jpeg)

![](_page_37_Figure_2.jpeg)

### Installation scheme

Duo-tec MP in cascade / N° 1 High Temperature zone (HT1) / N° 2 Low Temperature zones (LT2, LT3) / DHW Storage tank after hydraulic separator / solar integration

#### Accessories

- N°1 AVS 75 for cascade management
- N°1 AVS 75 for management of LT2 mixing zone
- N°1 AGU 2.550 for solar management
- N°1 RVS 46 REGULATOR for management of LT3 mixing zone
- INTERFACE KIT OCI 345 (1 for each boiler)
- N°1 OUTDOOR SENSOR QAC34 (7104873)
- N°4 CONTACT SENSOR QAD36 (KHG 71407891)
- N°2 NTC SENSORS FOR STORAGE TANK (KHG 71407681)
- N° 2 REMOTE CONTROLS THINK (QAA75)

#### Connections (for details refer to the manuals)

- In each boiler, the interface kit OCI 345-A0 must be connected through the flat cable to the connector X30 of the electronic PCB.
- Connect the OCI 345-A0 via the connectors MB and DB.
   Attention: MB must be connected with MB, as well as DB with DB (Paragraph 3.3 manual AVS 75, pag. 5).
- The AVS 75-A1 module must be connected to the master boiler (boiler terminal board M2, terminals 2-3). Consider the polarity (Paragraph 3.1 manual AVS 75, pag. 3).
- Connect the AGU 2.550-A3 module to the boiler in the X41 connector (Paragraph 4 manual AGU 2.550 for the management of mixed and solar plants).
- Set the extension module AVS 75 address via the switches (Dip switch):
  - AVS 75 (A1): 1 ON ; 2 OFF (extension module 1)
  - AVS 75 (A2): 1 OFF ; 2 ON (extension module 2)
  - AGU 2.550 (A3): 1 ON ; 2 ON (extension module 3)

#### IMPORTANT: if steady, the AVS 75 green led signals that the bus connections are correctly set

• The elements to be connected to the MASTER boiler are the following:

Outdoor sensor (ES)	Terminals 4-5 of terminal board M2 (common)
DHW upper sensor (SA)	Terminals 9-10 of terminal board M2

• Connect the elements of the cascade to the AVS 75 module (A1) (Paragraph 3.2 manual AVS 75 for the management of boilers in cascade):

HT1 zone pump (P1)	QX21 - N
DHW tank pump (PA)	QX22-N
Cascade flow sensor (SFC)	BX21-M
Cascade return sensor (SRC)	BX22-M
HT1 zone room thermostat (T1)	H2 - M

• Connect the components of the LT2 zone to the AVS 75 module (A2) (Paragraph 3.2.1 manual AVS 75 for the management of mixed plants):

Mixing valve (V2)	QX21-N-QX22
LT2 zone pump (P2)	QX23-N
LT2 zone flow sensor (S2)	BX21 - M
LT2 zone room thermostat (T2)	H2-M
Safety thermostat (TS2)	FX23 – L (ponticellare the terminals EX21 – FX23)

ATTENTION: if the safety thermostat is not managed by the module, put a jumper between the terminals FX23-L.

![](_page_39_Picture_0.jpeg)

• Connect the components of the solar system to the AGU 2.550 module (A3) (Paragraph 4.1.1 manual AGU 2.550 for the management of mixed plants):

Solar pump (PS)	QX23-N
DHW lower sensor (SB)	BX22 - M
Solar collector sensor (SC)	BX21-M

• Connect the components of the LT3 mixing zone to the RVS 46 module (R3):

OCI 345 Interface Kit	MB-DB
LT3 zone Remote Control Think (RC3)	G+ - CL CL+
Mixing valve (V3)	Y1-N-Y2
LT3 zone pump (P3)	Q2 – N
LT3 zone flow sensor (S3)	B1 - M

#### Parameters setting

While parameterizing a boiler, it is necessary to take off the power supply to the other ones.

#### MASTER BOILER (Default: Address 1)

- Connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2)
- Enter the SPECIALIST menu (if a **PASSWORD** is required: **10101**)

MENU	PARAMETER	VALUE	DESCRIPTION
Control Unit	40	Room Unit 1	Setting of control panel as room sensor
Control Unit	42	All the heating circuits	Assignment of heating circuits
Configuration	5710	ON	Enable Heating Circuit 1
Configuration	5715	ON	Enable Heating Circuit 2
Configuration	5721	OFF	Disable Heating Circuit 3
Configuration	5736	OFF	Disable DHW on single boiler
Configuration	5977	None	Disable TA on terminal board M1 (1-2)
Configuration	6020	Multifunctional	Enable the extension module 1 (AVS 75-A1) for the cascade
Configuration	6021	Heating Circuit 2	Enable the extension module 2 (AVS 75-A2) for the management of LT2 zone
Configuration	6022	DHW Solar	Enable the extension module 3 (AGU 2.550-A3) for the solar management
Configuration	6026	CR Safety thermostat OR None	EX21 input of extension module 2 (AVS 75-A2), enabled as a protection of the LT2 zone (set None without Safety Thermostat on FX23-L)
Configuration	6030	Heating circuit 1 Q2 pump	Pump HT1 zone (P1) on output QX21-N of AVS 75
Configuration	6031	DHW Q3 actuator	DHW pump (PA) on output QX22-N of AVS 75
Configuration	6040	Cascade flow sensor B10	Cascade flow sensor on input BX21 – M of AVS 75
Configuration	6041	Cascade return sensor B70	Cascade return sensor on input BX22 – M of AVS 75
Configuration	6046	Room Thermostat CR1 OR None	Enabling TA of the heating circuit 1 in input H2-M of the extension module 1 (AVS 75-A1) (setting None without the TA connected to the terminals)
Configuration	6054	Room Thermostat CR2 OR None	Enabling TA of the heating circuit 2 in input H2-M of extension module 2 AVS 75 (A2) (setting None without the TA connected to the terminals)
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings
LPB	6630	Always	Identification of master boiler
LPB	6640	Autonomous	Setting of master cascade clock

#### SLAVE BOILER (2)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	2	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

#### SLAVE BOILER (N)

MENU	PROGRAMME LINE	VALUE	DESCRIPTION
Configuration	P41 (5710)	Off (0)	Disable Heating Circuit 1
LPB	P54 (6600)	Ν	Boiler Address
LPB	P56 (6640)	Slave with remote setting (2)	Setting of cascade boilers clock with Master boiler

(For details, refer to the AVS75 manual for boiler cascade management, Paragraph 5.2)

**IMPORTANT:** once the parameterization is ended, take off the power supply to get the addresses, connect the Remote Control Think to the master boiler (terminals 1-2-3 of M2), switch on and set the parameters for **Heating Circuit 1** (parameters from 710 to 900) and **Heating Circuit 2** (parameters from 1010 to 1200) according to requirements. In particular, consider the following parameters:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	720	Your choice (1,5-1,8)	Climatic curve
Heating Circuit 1	740	45°C	Min. flow value
Heating Circuit 1	741	Your choice (60°-65°C)	Max. flow value
	745	Same of 741	With Room Thermostat
Heating Circuit 1	Heating Circuit 1 /42 -	-	Without Room Thermostat
Heating Circuit 1	750	-	Cancel influence room temperature
Heating Circuit 1	760	-	Cancel switching off differential
Heating Circuit 2	1020	Your choice (0,8-1)	Climatic curve
Heating Circuit 2	1040	25℃	Min. flow value
Heating Circuit 2	1041	Your choice (40-45°C)	Max. flow value
Heating Circuit 2 1042 -	Same of 1041	With Room Thermostat	
	-	Without Room Thermostat	
Heating Circuit 2	1050	-	Cancel influence room temperature
Heating Circuit 2	1060	-	Cancel switching off differential

For the functioning on specific time slots, set on AUTOMATIC the Functioning Mode of heating circuits (Radiator/tap key and Heating Circuit Functioning Mode heading) and set the Hour Programme of the interested circuit (Menu key).

![](_page_41_Picture_0.jpeg)

• Enter the Remote Control Think connected to the RVS 46 (R3) regulator (LT3 zone). Enter the parameters as a SPECIALIST:

MENU	PARAMETER	VALUE	DESCRIPTION
Control Unit	40	Room Unit 1	Remote Control Think set as Room sensor of LT3
Control Unit	42	All heating circuits	Assignment heating circuits
Heating Circuit 1	720	Your choice (0,8-1)	Climatic curve
Heating Circuit 1	740	Your choice (25°C)	Min. flow value
Heating Circuit 1	741	Your choice (35-45°C)	Max. flow value
Heating Circuit 1	750	Your choice (20-50°C)	Influence room sensor
Configuration	5710	ON	Enable Heating Circuit 1 (LT3)
Configuration	5950	Switching funct. mode CR+DHW	Disable input H1-M of regulator (RVS 46-R3)
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings
LPB	6600	N+1	Device address on BUS
LPB	6623	Local	Switching of functiong mode
LPB	6640	Slave with remote setting	Saving of the settings

If the LT3 zone is managed by a simple Room Thermostat (instead of the Remote Control Think), connect the thermostat to the H1-M input of the regulator managing the zone and modify the following parameters connecting always with a Remote Control Think to the terminals G+ - CL- - CL+ of the regulator RVS 46-R3:

MENU	PARAMETER	VALUE	DESCRIPTION
Control unit	40	Room Unit 1	Control panel is set as Room Unit
Heating Circuit 1	900	COMFORT	Functioning mode in switching
Configuration	5950	Switching funct. mode CR1	Enable H1-M input as Room Thermostat
Configuration	5951	Normally OPEN	H1-M input
Configuration	6200	Yes (The value returns automatically to "No" immediately after setting)	Saving of the settings

Once ended the parameterization:

- take off and on the power supply
- make sure the contact to the H1-M input of the module is open (the thermostat is not in requirement)
- push the left button and change the Heating Circuit 1 Functioning Mode to Antifrost Protection

### Luna Duo-tec MP/MP+

#### 0-10 Volt temperature control through Extension Module (EM) AGU 2.550 or AVS 75

The heat request is not performed through a room thermostat, but the boiler flow temperature is managed by a 0-10 Volt device connected to **input H2-M of the EM**.

![](_page_42_Figure_4.jpeg)

#### Parameters Setting

**NOTE**: the parameters (from 6020 to 6052) are related to the fact that the EM is set as Extension Module 1 (swich position **1:ON**, **2:OFF**). If the EM address is 2 or 3, consider the related parameters.

MENU	PARAMETER	VALUES TO SET	DESCRIPTION
Configuration	5710	OFF	Disable Heating circuit 1
Configuration	5715	OFF	Disable Heating circuit 2
Configuration	5721	OFF	Disable Heating circuit 3
Configuration	5977	None	Disable RT on terminal board M1
Configuration	6020	Multifunctional	Enable EM 1
Configuration	6046	User Request CH1 10V	Input configuration H2-M
Configuration	6049	0,5 V	Signal description (Min. Temp.)
Configuration	6050	250	Signal description (Min. Temp.)
Configuration	6051	10 V	Signal description (Max. Temp.)
Configuration	6052	800	Signal description (Max. Temp.)

The heating circuits 1-2-3 must be disabled.

With parameters 6049-6050 25°C is defined as minimum temperature for a 0-0,5 V signal. With parameters 6051-6052 80°C is defined as maximum temperature for a 10 V signal.

#### NOTE

If required in the system:

MENU	PROGRAM LINE	VALUES TO BE SET	DESCRIPTION
Configuration	5890	Secondary circuit HC1 Q15	Configure the pump on terminals 6-7 of M3 in the boiler
Configuration	5892	DHW control element Q3	Configure the DHW pump on terminals 4-5 of M3 in the boiler
Configuration	6030	Alarm output K10	Configure the alarm signal on output QX21-N of AGU 2.550

![](_page_43_Picture_0.jpeg)

#### Quality Environment Safety

are Baxi strategic aims and the awarded certifications ensure compliance with the specific regulations

#### BAXISPA

36061 BASSANO DEL GRAPPA (VI) - ITALY Via Trozzetti, 20 marketing@baxi.it www.baxi.it

The Company assumes no responsibility for any possible contents mistakes, and reserves the right to make changes in products, due to technical or commercial demands, at any time without notice.

Baxi S.p.A. 10-17 G