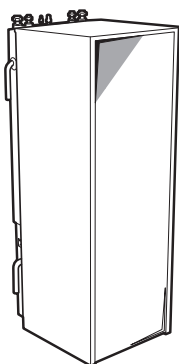




# Installation manual

## Daikin Altherma – Low temperature split



EHVH04S18CBV  
EHVH08S18CBV  
EHVH08S26CBV  
EHVH11S26CBV  
EHVH16S26CBV

Installation manual  
Daikin Altherma – Low temperature split

English

CE - DECLARATION-OF-CONFORMITY  
CE - DICHIARAZIONE-DI-CONFORMITÀ  
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ

CE - DECLARAÇÃO-DE-CONFORMIDADE  
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ  
CE - ÖVERENSSTÄMMELSEERKLÄRING  
CE - FÖRSÄKRAN-OM-ÖVERENSSTÄMMELSE

CE - ERKLÆRING OM-SAMSVAR  
CE - ILMOITUS-YHDENMUKAISUUDESTA  
CE - PROHLÁŠENÍ-O-SHODĚ

CE - IZJAVA-O-USKLAĐENOSTI  
CE - MEGFELELŐSÉGI-NYILATKOZAT  
CE - DEKLARACIJA-ZGODNOSTI  
CE - DECLARATIE-DE-CONFORMITATE

CE - IZJAVA O SKLADNOSTI  
CE - VASTAVUSDEKLARATSIION  
CE - ДЕКЛАРАЦИЯ-ЗА-СЪОТВЕТСТВИЕ

CE - ATTĪKTIES-DEKLARĀCIJA  
CE - ATBILSTĪBAS-DEKLARĀCIJA  
CE - VYHLÁSENIE-ZHODY  
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declara sous sa seule responsabilité que l'équipement visé par la présente déclaration:  
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declara sotto la propria responsabilità che l'apparecchio a cui è fatta questa dichiarazione:  
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Zusammenfassung bestimmt ist:  
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declara sua exclusiva responsabilidade que o equipamento a que esta declaração se refere:

[illegible]

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01	are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:	01	der (den) (denen) Norm(en) oder einem anderen Normdokument(en) entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
02	conformes à la(ux) norme(s) ou autre(s) document(s) normatif(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:	02	conformes à la(ux) norme(s) ou autre(s) document(s) normatif(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
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07		07	
08		08	
09		09	
10	under lagtegnelse af bestemmelserne i:	10	under lagtegnelse af bestemmelserne i:
11	enligt villkoren i:	11	enligt villkoren i:
12	gitt i/henlöst till bestämmelserna i:	12	gitt i/henlöst till bestämmelserna i:
13	conformément aux dispositions de:	13	conformément aux dispositions de:
14	overeenkomstig de bepalingen van:	14	overeenkomstig de bepalingen van:
15	suspending a la disposición de:	15	suspending a la disposición de:
16	secondo le prescrizioni per:	16	secondo le prescrizioni per:
17	conform to the conditions of use:	17	conform to the conditions of use:
18	de acordo com o preâmbulo em:	18	de acordo com o preâmbulo em:
19	ob upštevanja odobro:	19	ob upštevanja odobro:
20	vastavši navedle:	20	vastavši navedle:
21	creșterea și creșterea în:	21	creșterea și creșterea în:
22	lakaitis nuostatai, pateikiamų:	22	lakaitis nuostatai, pateikiamų:
23	ievērojot prasības, kas iekļautas:	23	ievērojot prasības, kas iekļautas:
24	održavajući uslova:	24	održavajući uslova:
25	buunun koşullarına uygun olarak:	25	buunun koşullarına uygun olarak:

EN60335-2-40,

[illegible]

01 Note*	as set out in <B> and judged positively by <B>	06 Nota*
02 Hinweis*	we in <B> algeheel ind and von <B> positiv denkt (gemidd. Zenitfall <B>	07 Epilocation*
03 Remarque*	le que défini dans <B> et évalué positivement par <B> 08 Nota*	
04 Bemerk*	zoals vermeld in <B> en positief beoordeeld door <B> 09 Poinewadname*	
05 Nota*	overeenkomstig Certificaat <B> como se establece en <B> y es valorado positivamente por <B> de acuerdo con el Certificado <B>	10 Bemerk*

delinato nel <B> e giudicato positivamente da <B>  
secondo il **Certificato** <B>  
тут же задокументовано <B> как критерий  
от <B> окупилась же то **Потопилом** <B>  
и как estabelecido em <B> e com o parecer positivo  
de <B> de acordo com o **Certificado** <B>  
как указано в <B> и в соответствии с положительным  
мнением <B> согласно **Свидетельству** <B>  
com anfitri <B> og positivt vurderet af <B> i henhold  
til **Certifikat** <B>

Information*	enligt <A> och godkänns av <B> enligt Certifikatet <C>.
Merk*	som del från kommeri i <A> och glennom bedömelse av <B> ifråga Serifikat <C>
Huom*	på en esletty asakirassa <A> ja jalka on hyväksynyt Serifikatin <C> mukais- en jaku bylo uuedno v <A> ja pozitivno zjstie <B> i suuladu s osvstetimen <C>
Poznámka*	kako je izloženo u <A> pozitivno ojeñe <B> prema Certifikatu <C>
Napomena*	

16 Megjegyzés\*

17 Uwaga\*

18 Nota\*

19 Opomba\*

20 Märkus\*

2) <A> alapañ, ałz <B> garzila a męgłełst, ałz) 21 Zabełnarka  
22 Pasłaba\*  
23 Pasłaba\*  
24 Poznańka\*  
25 Not\*

както е изключено в <B> и оценено положително от <B>  
слагало **Сертифика** <B>  
капо нустява <A> и капо бегамат нустява <B> пагал  
**Сертифика** <B>  
ка норадис <A> ун абитоси <B> позитивам вербейнам  
саскапа ат **сертиф**а <B>  
ако бодо уведен в <A> а позитива зистер <B> в силде  
с **осветен**им <B>  
<A> да берили гбу в <C> **Сертифика**с гбу <B>  
ларатин оуми дарак дегерендиг гбу.

01	Directives, as amended.	10	Direktiver, med senere ændringer.
02	Directiven, genet. Andening.	11	Direktiv, med forlængelse.
03	Directives, tales for modifik.	12	Direktiv, med forlængelse.
04	Richtlijnen, zoals geamendeerd.	13	Direktievelj selatir.
05	Directivas, según lo emendado.	14	Vyplatenj zmln.
06	Directive, come da modifica.	15	Smenenie, kako je izmenjeno.
07	Obyčnyj dnus-šuvu protivorozp.	16	lavlavl(ek) és módosítás.
08	Directivas, conforme alteraçães em.	17	z pôznejšimj popravy.
09	Direktiva so vsilimi popravljenj.		

18 Direktiobe, cu amendamentele respective.  
19 Direktive z vsemu spremembami.  
20 Direktivd koos muudatustega.  
21 Директиви, с текстами изменения.  
22 Direktiivose su papildumiis.  
23 Direktiivs un to papildināums.  
24 Smernice, v platnom zneni.  
25 Dęstisimasis taikenyje Yonetmeliker.

<A>	DAIKIN.TCF.025H22/10-2016
<B>	DEKRA (NB0344)
<C>	2082543.0551-QUA/EMC

**DAIKIN**

Director  
Ostend, 3rd of October 2016

**DAIKIN EUROPE N.V.**

Zandvoordestraat 300, B-8400 Oostende, Belgium

**3P459951-3**

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## 1 About the documentation

### 1.1 About this document

#### Target audience

Authorised installers

#### Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
  - Safety instructions that you must read before installing
  - Format: Paper (in the box of the indoor unit)
- **Indoor unit installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the indoor unit)
- **Outdoor unit installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the outdoor unit)
- **Backup heater installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the backup heater)
- **Installer reference guide:**
  - Preparation of the installation, good practices, reference data,...
  - Format: Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>
- **Addendum book for optional equipment:**
  - Additional info about how to install optional equipment
  - Format: Paper (in the box of the indoor unit) + Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

The original documentation is written in English. All other languages are translations.

#### Technical engineering data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin extranet (authentication required).

## 2 About the box

## 2 About the box

### 2.1 Indoor unit

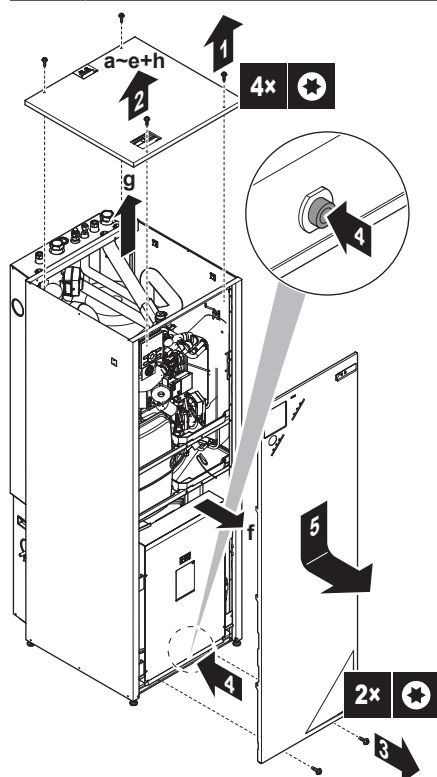
#### 2.1.1 To remove the accessories from the indoor unit

- 1 Remove the screws at the top of the unit.
- 2 Remove the top panel.
- 3 Remove the screws at the front of the unit.
- 4 Push on the button on the bottom of the front plate.
- 5 Remove the front plate.

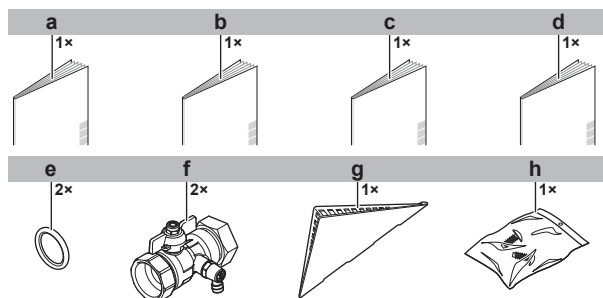


#### WARNING: Sharp edges

Take the front plate on the upper part instead of the lower part. Watch your fingers, there are sharp edges on the lower part of the front plate.



#### 6 Remove the accessories.



- a General safety precautions
- b Addendum book for optional equipment
- c Indoor unit installation manual
- d Operation manual
- e Sealing ring for shut-off valve
- f Shut-off valve
- g User interface cover
- h 2 screws for fixing the user interface.

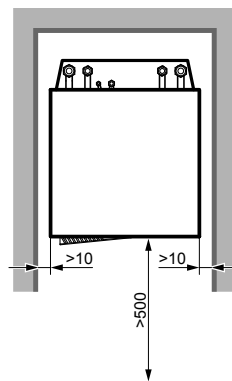
#### 7 Reinstall the top panel and the front plate.

## 3 Preparation

### 3.1 Preparing the installation site

#### 3.1.1 Installation site requirements of the indoor unit

- The indoor unit is designed for indoor installation only and for ambient temperatures ranging from 5~35°C.
- Mind the following spacing installation guidelines:



(mm)

### 3.2 Preparing water piping



#### NOTICE

In case of plastic pipes, make sure they are fully oxygen diffusion tight according to DIN 4726. The diffusion of oxygen into the piping can lead to excessive corrosion.

#### 3.2.1 To check the water volume and flow rate

##### Minimum water volume

Check that the total water volume in the installation is minimum 10 litre for EHVH04+08 and 20 litre for EHVH11+16, the internal water volume of the indoor unit NOT included.



#### NOTICE

When circulation in each space heating/cooling loop is controlled by remotely controlled valves, it is important that the minimum water volume is guaranteed, even if all of the valves are closed.

##### Minimum flow rate

Check that the minimum flow rate (required during defrost/backup heater operation (if applicable)) in the installation is guaranteed in all conditions.



#### NOTICE

When circulation in each or certain space heating loops is controlled by remotely controlled valves, it is important that the minimum flow rate is guaranteed, even if all valves are closed. In case the minimum flow rate cannot be reached, a flow error 7H will be generated (no heating or operation).

See the installer reference guide for more information.

Minimum required flow rate	
04+08 models	12 l/min
11+16 models	15 l/min

See the recommended procedure as described in ["6.2 Checklist during commissioning" on page 18.](#)

### 3.3 Preparing electrical wiring

#### 3.3.1 Overview of electrical connections for external and internal actuators

Item	Description	Wires	Maximum running current
<b>Outdoor unit and indoor unit power supply</b>			
1	Power supply for outdoor unit	2+GND or 3+GND	(a)
2	Power supply and interconnection cable to indoor unit	3	(c)
3	Power supply for anti-legionella heater	2+GND	(c)
4	Preferential kWh rate power supply (voltage free contact)	2	(d)
5	Normal kWh rate power supply	2	6.3 A
<b>User interface</b>			
6	User interface	2	(e)
<b>Optional equipment</b>			
11	Power supply for bottom plate heater	2	(b)
12	Room thermostat	3 or 4	100 mA <sup>(b)</sup>
13	Outdoor ambient temperature sensor	2	(b)
15	Heat pump convector	4	100 mA <sup>(b)</sup>
<b>Field supplied components</b>			
16	Shut-off valve	2	100 mA <sup>(b)</sup>
17	Electricity meter	2 (per meter)	(b)
18	Domestic hot water pump	2	(b)
19	Alarm output	2	(b)
20	Changeover to external heat source control	2	(b)
21	Space heating operation control	2	(b)
22	Power consumption digital inputs	2 (per input signal)	(b)
23	Safety thermostat	2	(d)

- (a) Refer to name plate on outdoor unit.  
 (b) Minimum cable section 0.75 mm<sup>2</sup>.  
 (c) Cable section 2.5 mm<sup>2</sup>.  
 (d) Cable section 0.75 mm<sup>2</sup> till 1.25 mm<sup>2</sup>; maximum length: 50 m. Voltage-free contact shall ensure the minimum applicable load of 15 V DC, 10 mA.  
 (e) Cable section 0.75 mm<sup>2</sup> till 1.25 mm<sup>2</sup>; maximum length: 500 m. Applicable for both single user interface and dual user interface connection.



#### NOTICE

More technical specifications of the different connections are indicated on the inside of the indoor unit.

## 4 Installation

### 4.1 Opening the units

#### 4.1.1 To open the indoor unit

- 1 Loosen and remove the screws at the bottom of the unit.
- 2 Push on the button at the bottom of the front plate.



#### WARNING: Sharp edges

Take the front plate on the upper part instead of the lower part. Watch your fingers, there are sharp edges on the lower part of the front plate.

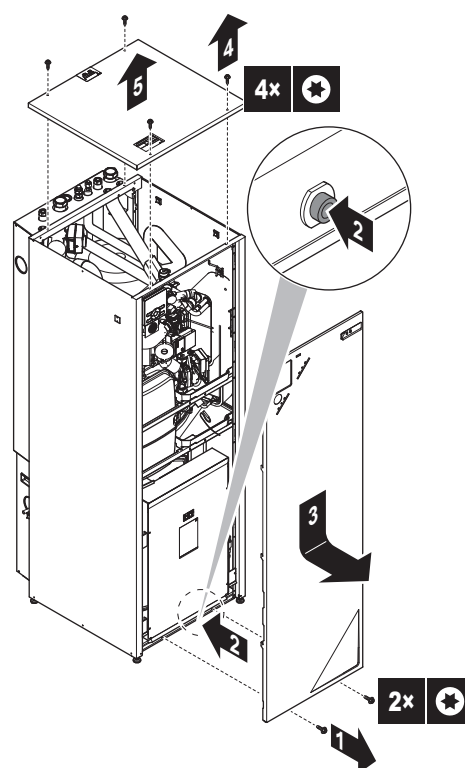
- 3 Slide the front panel of the unit downwards and remove it.



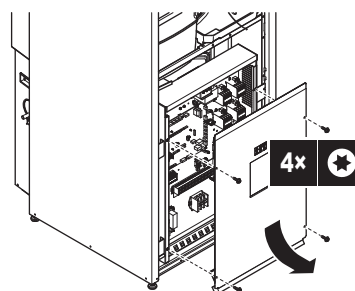
#### CAUTION

The front panel is heavy. Be careful NOT to jam your fingers when opening or closing the unit.

- 4 Loosen and remove the 4 screws that fix the top panel.
- 5 Remove the top panel from the unit.



#### 4.1.2 To open the switch box cover of the indoor unit

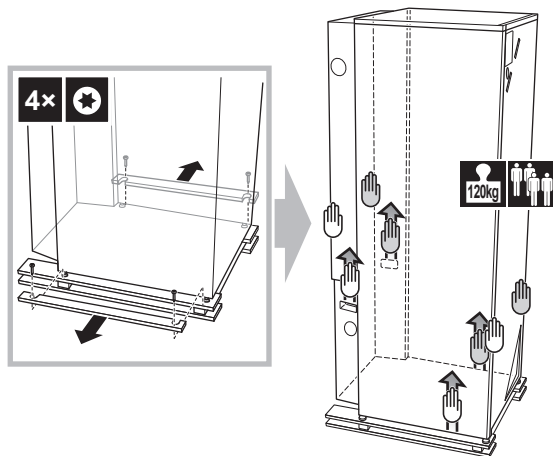


## 4 Installation

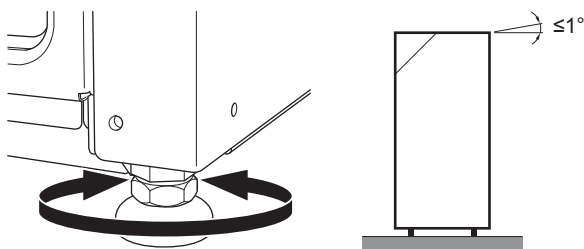
### 4.2 Mounting the indoor unit

#### 4.2.1 To install the indoor unit

- 1 Lift the indoor unit from the pallet and place it on the floor.

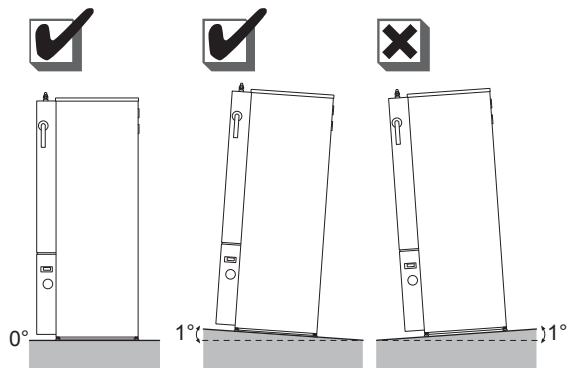


- 2 Slide the indoor unit into position.
- 3 Adjust the height of the leveling feet to compensate for floor irregularities. The maximum allowed deviation is 1°.



#### NOTICE

Do NOT tilt the unit backwards:

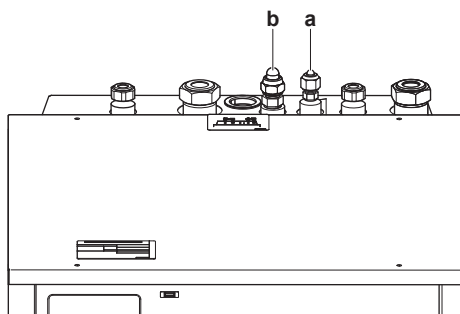


### 4.3 Connecting the refrigerant piping

See the outdoor unit installation manual for all guidelines, specifications and installation instructions.

#### 4.3.1 To connect the refrigerant piping to the indoor unit

- 1 Connect the liquid stop valve from the outdoor unit to the refrigerant liquid connection of the indoor unit.



- a Refrigerant liquid connection  
b Refrigerant gas connection

- 2 Connect the gas stop valve from the outdoor unit to the refrigerant gas connection of the indoor unit.

### 4.4 Connecting the water piping

#### 4.4.1 To connect the water piping

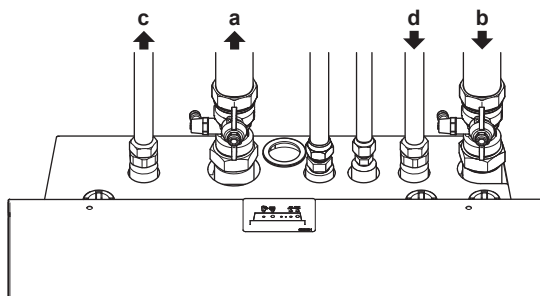


#### NOTICE

Do NOT use excessive force when connecting the piping. Deformation of the piping can cause malfunctioning of the unit.

To facilitate service and maintenance, 2 shut-off valves are provided. Mount the valves on the space heating water inlet and space heating water outlet. Mind their position: the integrated drain valves will only drain the side of the circuit on which they are located. To be able to only drain the unit, make sure the drain valves are positioned between the shut-off valves and the unit.

- 1 Install the shut-off valves on the space heating water pipes.
- 2 Screw the indoor unit nuts on the shut-off valve.
- 3 Connect the domestic hot water in and out pipes to the indoor unit.



- a Space heating water out  
b Space heating water in  
c Domestic hot water out  
d Domestic cold water in (cold water supply)



#### NOTICE

It is recommended to install shut-off valves to domestic cold water in and domestic hot water out connections. These shut-off valves are field supplied.



#### NOTICE

Install air purge valves at all local high points.



#### NOTICE

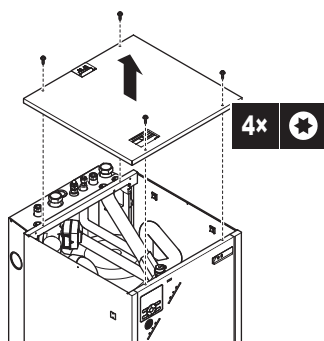
A pressure relief valve (field supply) with an opening pressure of maximum 10 bar must be installed on the domestic cold water inlet connection in accordance with the applicable legislation.

#### 4.4.2 To connect the recirculation piping

**Prerequisite:** Only required if you need recirculation in your system.



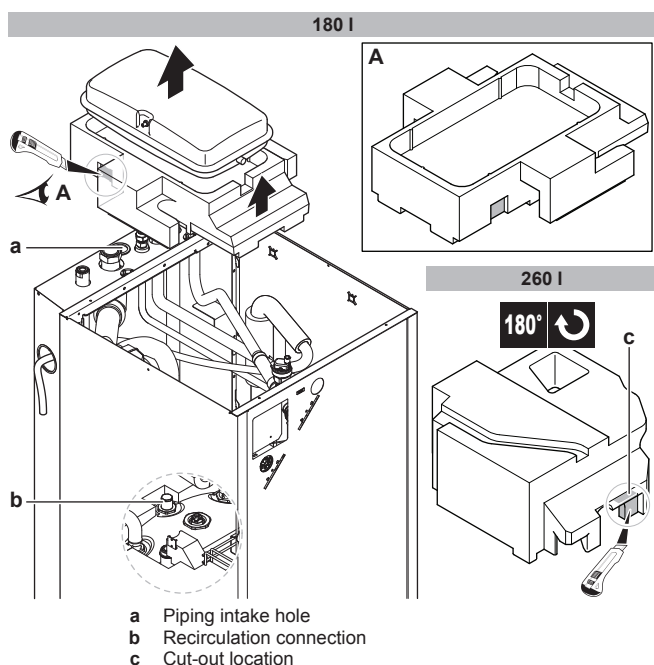
- 1 Loosen and remove the 4 screws that fix the top panel.
- 2 Remove the top panel from the unit.



- 3 In case of a unit with a tank capacity of 180 l, remove the expansion vessel.
- 4 Remove the top insulation.
- 5 Cut out part (c) from the top insulation.

Tank capacity	Cut out position
180 l	Left OR right
260 l	Backside

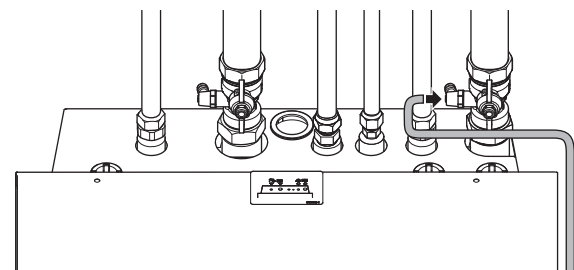
- 6 Connect the recirculation piping to the recirculation connection (b) and route the piping through the hole at the backside of the unit (a).



- 7 Reattach the top insulation, expansion vessel (in case of a unit with a tank capacity of 180 l), and casing.

## 4.4.3 To fill the water circuit

- 1 Connect the water supply hose to the fill valve.



- 2 Open the fill valve.

- 3 Make sure that the automatic air purge valve is open (at least 2 turns).
- 4 Fill the circuit with water until the manometer indicates a pressure of  $\pm 2.0$  bar.
- 5 Purge as much air as possible from the water circuit.
- 6 Close the fill valve.
- 7 Disconnect the water supply hose from the fill valve.

## 4.4.4 To fill the domestic hot water tank

- 1 Open every hot water tap in turn to purge air from the system pipe work.
- 2 Open the cold water supply valve.
- 3 Close all water taps after all air is purged.
- 4 Check for water leaks.
- 5 Manually operate the field-installed pressure relief valve to ensure a free water flow through the discharge pipe.



### NOTICE

To operate the system, the domestic hot water tank needs to be filled completely. Turning on the system when the tank is not full can damage the integrated anti-legionella heater and cause electrical errors.

## 4.4.5 To insulate the water piping

The piping in the complete water circuit **MUST** be insulated to prevent condensation and reduction of the heating capacity.

If the temperature is higher than 30°C and the humidity is higher than RH 80%, the thickness of the insulation materials should be at least 20 mm to prevent condensation on the surface of the insulation.

## 4.5 Connecting the electrical wiring



**DANGER: RISK OF ELECTROCUTION**

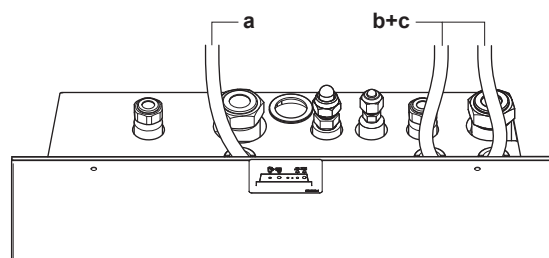


### WARNING

ALWAYS use multicore cable for power supply cables.

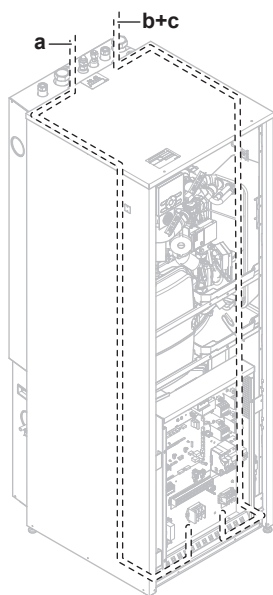
### 4.5.1 To connect the electrical wiring on the indoor unit

- 1 To open the indoor unit, see "4.1.1 To open the indoor unit" on page 5 and "4.1.2 To open the switch box cover of the indoor unit" on page 5.
- 2 Wiring should enter the unit from the top:



- 3 Routing of the wiring inside the unit should be as follows:

## 4 Installation



- 4 Fix the cable with cable ties to the cable tie mountings to ensure strain relief and to make sure that it does NOT come in contact with the piping and sharp edges.

### **i** INFORMATION

To access the domestic hot water temperature sensor, the switch box can be tilted. The switch box should NOT be removed from the unit.

Routing	Possible cables (depending on unit type and installed options)
a Low voltage	<ul style="list-style-type: none"> <li>• Preferential power supply contact</li> <li>• User interface</li> <li>• Power consumption digital inputs (field supply)</li> <li>• Outdoor ambient temperature sensor (option)</li> <li>• Indoor ambient temperature sensor (option)</li> <li>• Electrical meters (field supply)</li> <li>• Safety thermostat (field supply)</li> </ul>
b High voltage power supply	<ul style="list-style-type: none"> <li>• Interconnection cable</li> <li>• Normal kWh rate power supply</li> <li>• Preferential kWh rate power supply</li> <li>• Power supply for anti-legionella heater (in DHW tank)</li> <li>• Power supply for bottom plate heater (option)</li> </ul>
c High voltage control signal	<ul style="list-style-type: none"> <li>• Heat pump convactor (option)</li> <li>• Room thermostat (option)</li> <li>• Shut-off valve (field supply)</li> <li>• Domestic hot water pump (field supply)</li> <li>• Alarm output</li> <li>• Changeover to external heat source control</li> <li>• Space heating operation control</li> </ul>

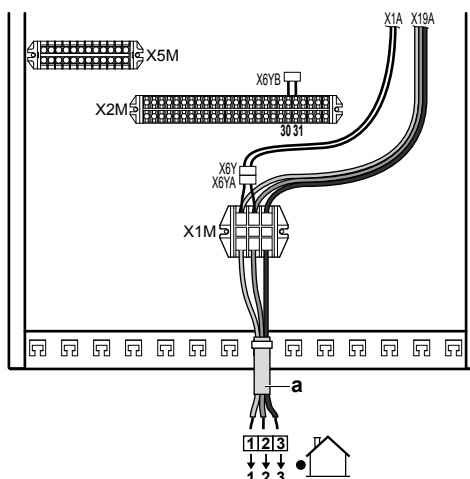
### **!** CAUTION

Do NOT push or place redundant cable length in the unit.

## 4.5.2 To connect the main power supply

- 1 Connect the main power supply.

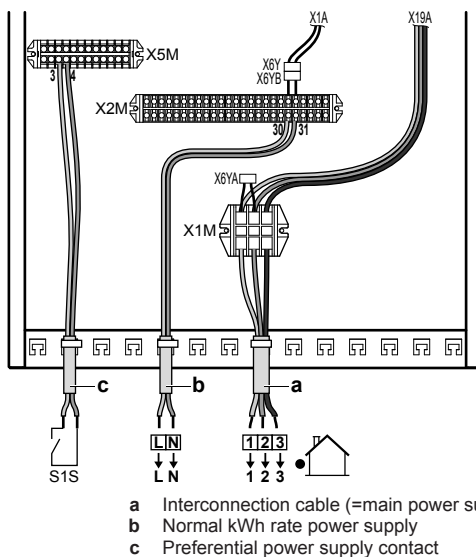
### In case of normal kWh rate power supply



Legend: see illustration below.

### In case of preferential kWh rate power supply

Connect X6Y to X6YB.



- 2 Fix the cables with cable ties to the cable tie mountings.

### **i** INFORMATION

In case of preferential kWh rate power supply, connect X6Y to X6YB. The necessity of separate normal kWh rate power supply to indoor unit (b) X2M/30+31 depends on the type of preferential kWh rate power supply.

Separate connection to the indoor unit is required:

- if preferential kWh rate power supply is interrupted when active, OR
- if no power consumption of the indoor unit is allowed at the preferential kWh rate power supply when active.

### **i** INFORMATION

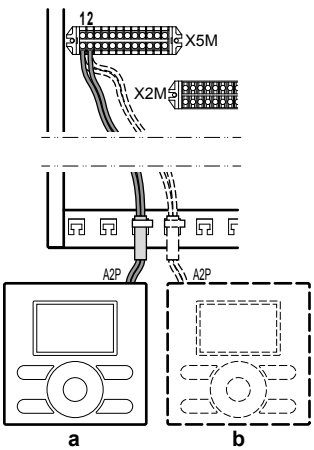
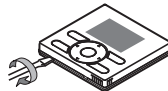
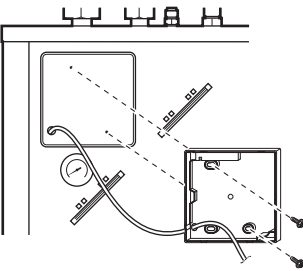
The preferential kWh rate power supply contact is connected to the same terminals (X5M/3+4) as the safety thermostat. It is only possible for the system to have EITHER preferential kWh rate power supply OR a safety thermostat.



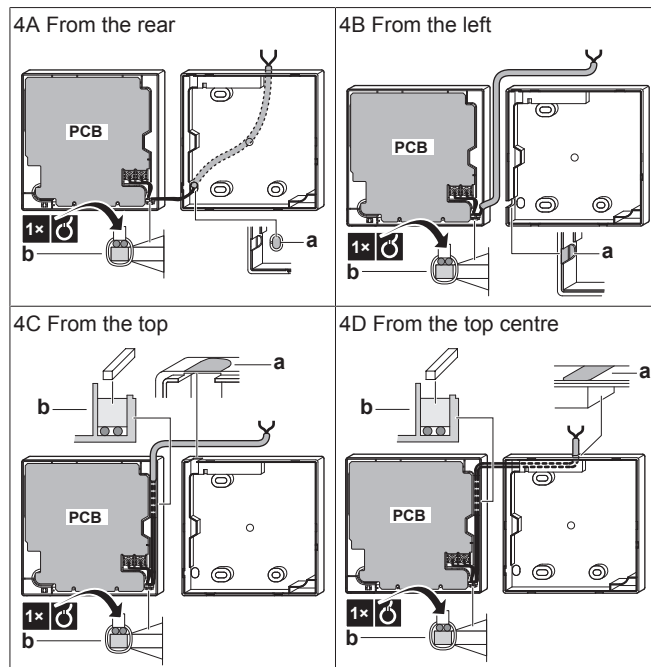
### 4.5.3 To connect the user interface

- If you use 1 user interface, you can install it at the indoor unit (for control close to the indoor unit), or in the room (when used as room thermostat).
- If you use 2 user interfaces, you can install 1 user interface at the indoor unit (for control close to the indoor unit) + 1 user interface in the room (used as room thermostat).

The procedure differs slightly depending on where you install the user interface.

#	At the indoor unit	In the room
1	<p>Connect the user interface cable to the indoor unit. Fix the cable with cable ties to the cable tie mountings.</p>  <p><b>a</b> Main user interface<sup>(a)</sup> <b>b</b> Optional user interface</p>	
2	<p>Insert a screwdriver into the slots underneath the user interface and carefully separate the faceplate from the wallplate.</p> <p>The PCB is mounted in the faceplate of the user interface. Be careful NOT to damage it.</p> 	
3	<p>Use the 2 screws in the accessory bag to fix the wallplate of the user interface to the sheet metal of the unit.</p> <p>Be careful NOT to distort the shape of the backside of the user interface by overtightening the mounting screws.</p> 	<p>Fix the wallplate of the user interface to the wall.</p>
4	Connect as shown in 4A.	Connect as shown in 4A, 4B, 4C or 4D.
5	<p>Reinstall the faceplate onto the wallplate.</p> <p>Be careful NOT to pinch the wiring when attaching the frontplate to the unit.</p>	

(a) The main user interface is required for operation, but has to be ordered separately (mandatory option).



- a** Notch this part for the wiring to pass through with nippers etc.
- b** Secure the wiring to the front part of the casing using the wiring retainer and clamp.

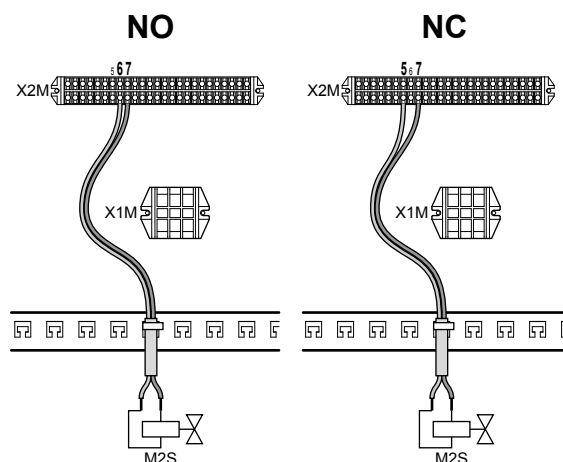
### 4.5.4 To connect the shut-off valve

- Connect the valve control cable to the appropriate terminals as shown in the illustration below.



#### NOTICE

Wiring is different for a NC (normal closed) valve and a NO (normal open) valve.



- Fix the cable with cable ties to the cable tie mountings.

### 4.5.5 To connect the electrical meters

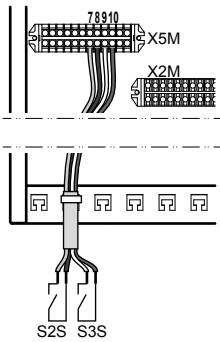


#### INFORMATION

In case of an electrical meter with transistor output, check the polarity. The positive polarity MUST be connected to X5M/7 and X5M/9; the negative polarity to X5M/8 and X5M/10.

- Connect the electrical meters cable to the appropriate terminals as shown in the illustration below.

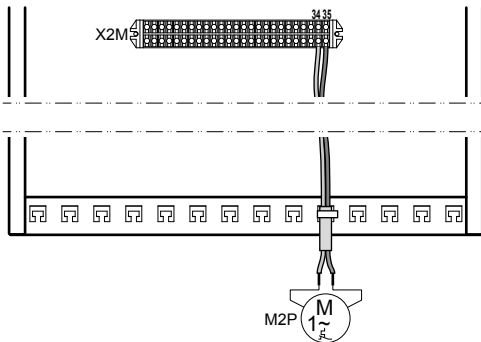
## 4 Installation



- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.6 To connect the domestic hot water pump

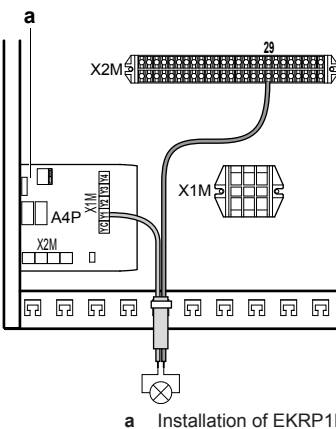
- 1 Connect the domestic hot water pump cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.7 To connect the alarm output

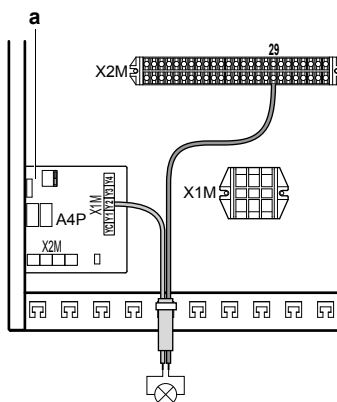
- 1 Connect the alarm output cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.8 To connect the space heating ON/OFF output

- 1 Connect the space heating ON/OFF output cable to the appropriate terminals as shown in the illustration below.

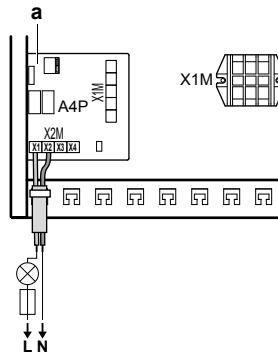


a Installation of EKR1HB is required.

- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.9 To connect the changeover to external heat source

- 1 Connect the changeover to external heat source cable to the appropriate terminals as shown in the illustration below.

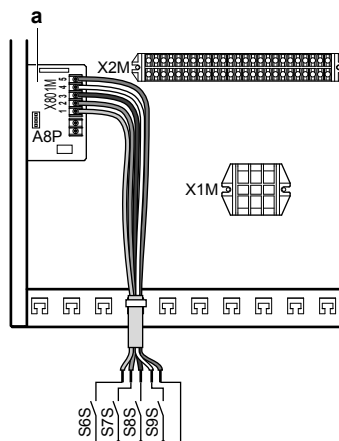


a Installation of EKR1HB is required.

- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.10 To connect the power consumption digital inputs

- 1 Connect the power consumption digital inputs cable to the appropriate terminals as shown in the illustration below.

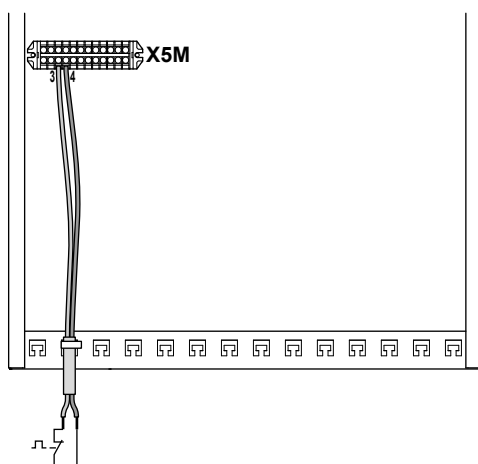


a Installation of EKR1AHTA is required.

- 2 Fix the cable with cable ties to the cable tie mountings.

### 4.5.11 To connect the safety thermostat (normal closed contact)

- 1 Connect the safety thermostat (normal closed) cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

**NOTICE**

Make sure to select and install the safety thermostat according to the applicable legislation.

In any case, to prevent unnecessary tripping of the safety thermostat, it is recommended that ...

- ... the safety thermostat is automatically resettable.
- ... the safety thermostat has a maximum temperature variation rate of 2°C/min.
- ... there is a minimum distance of 2 m between the safety thermostat and the 3-way valve.

**INFORMATION**

After it is installed, do NOT forget to configure the safety thermostat. Without configuration, the indoor unit will ignore the safety thermostat contact.

**INFORMATION**

The preferential kWh rate power supply contact is connected to the same terminals (X5M/3+4) as the safety thermostat. It is only possible for the system to have EITHER preferential kWh rate power supply OR a safety thermostat.

#### 4.5.12 To connect the anti-legionella heater power supply

**WARNING**

The anti-legionella heater **MUST** have a dedicated power supply and **MUST** be protected by the safety devices required by the applicable legislation.

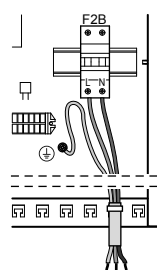
**CAUTION**

To guarantee the unit is completely earthed, always connect the anti-legionella heater power supply and the earth cable.

Make sure that the power supply is in accordance with the anti-legionella heater capacity, as listed in the table below.

Anti-legionella heater capacity	Power supply	Maximum running current
2.4 kW	1~ 230 V	11 A

- 1 Connect the anti-legionella heater power supply cable to the appropriate terminals as shown in the illustration below.

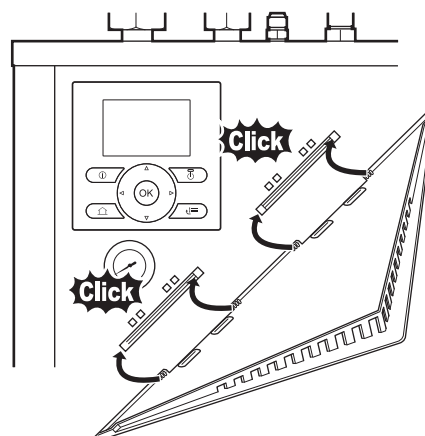


- 2 Fix the cable with cable ties to the cable tie mountings.

## 4.6 Finishing the indoor unit installation

### 4.6.1 To fix the user interface cover to the indoor unit

- 1 Make sure that the front panel is removed from the indoor unit. See "4.1.1 To open the indoor unit" on page 5.
- 2 Plug the user interface cover into the hinges.



- 3 Mount the front panel to the indoor unit.

### 4.6.2 To close the indoor unit

- 1 Close the switch box cover.
- 2 Reinstall the top plate.
- 3 Reinstall the front panel.

**NOTICE**

When closing the indoor unit cover, make sure that the tightening torque does NOT exceed 4.1 N•m.

## 5 Configuration

### 5.1 Overview: Configuration

This chapter describes what you have to do and know to configure the system after it is installed.

**NOTICE**

The explanation about the configuration in this chapter gives you **ONLY** basic explanations. For more detailed explanation and background information, see the installer reference guide.

**Why**

If you do NOT configure the system correctly, it might NOT work as expected. The configuration influences the following:

## 5 Configuration

- The calculations of the software
- What you can see on and do with the user interface

### How

You can configure the system via the user interface.

- **First time – Quick wizard.** When you turn ON the user interface for the first time (via the indoor unit), a quick wizard starts to help you configure the system.
- **Afterwards.** If necessary, you can make changes to the configuration afterwards.



#### INFORMATION

When the installer settings are changed, the user interface will request to confirm. When confirmed, the screen will shortly turn OFF and "busy" will be displayed for several seconds.

### Accessing settings – Legend for tables

You can access the installer settings using two different methods. However, NOT all settings are accessible via both methods. If so, the corresponding table columns in this chapter are set to N/A (not applicable).

Method	Column in tables
Accessing settings via the breadcrumb in the menu structure.	#
Accessing settings via the code in the overview settings.	Code

See also:

- ["To access the installer settings" on page 12](#)
- ["5.3 Menu structure: Overview installer settings" on page 17](#)

### 5.1.1 To access the most used commands

#### To access the installer settings

- 1 Set the user permission level to Installer.
- 2 Go to [A.]: > Installer settings.

#### To access the overview settings

- 1 Set the user permission level to Installer.
- 2 Go to [A.8]: > Installer settings > Overview settings.

#### To set the user permission level to Installer

- 1 Set the user permission level to Adv. end user.
- 2 Go to [6.4]: > Information > User permission level.
- 3 Press for more than 4 seconds.

**Result:** is displayed on the home pages.

- 4 If you do NOT press any button for more than 1 hour or press again for more than 4 seconds, the installer permission level switches back to End user.

#### To set the user permission level to Advanced end user

- 1 Go to the main menu or any of its submenus: .
- 2 Press for more than 4 seconds.

**Result:** The user permission level switches to Adv. end user. Additional information is displayed and "+" is added to the menu title. The user permission level will stay in Adv. end user until set otherwise.

#### To set the user permission level to End user

- 1 Press for more than 4 seconds.

**Result:** The user permission level switches to End user. The user interface will return to the default home screen.

### To modify an overview setting

**Example:** Modify [1-01] from 15 to 20.

- 1 Go to [A.8]: > Installer settings > Overview settings.
- 2 Go to the corresponding screen of the first part of the setting by using the and button.



#### INFORMATION

An additional 0-digit is added to the first part of the setting when you access the codes in the overview settings.

**Example:** [1-01]: "1" will result in "01".

Overview settings				
01				
00	01	15	02	03
04	05	06	07	
08	09	0a	0b	
0c	0d	0e	0f	
OK Confirm		Adjust	Scroll	

- 3 Go to the corresponding second part of the setting by using the and button.

Overview settings				
01				
00	01	15	02	03
04	05	06	07	
08	09	0a	0b	
0c	0d	0e	0f	
OK Confirm		Adjust	Scroll	

**Result:** The value to be modified is now highlighted.

- 4 Modify the value by using the and button.

Overview settings				
01				
00	01	20	02	03
04	05	06	07	
08	09	0a	0b	
0c	0d	0e	0f	
OK Confirm		Adjust	Scroll	

- 5 Repeat previous steps if you have to modify other settings.
- 6 Push **OK** to confirm the modification of the parameter.
- 7 At installer settings menu, press **OK** to confirm the settings.

Installer settings	
The system will restart.	
OK	Cancel
OK Confirm Adjust	

**Result:** The system will restart.

## 5.2 Basic configuration

### 5.2.1 Quick wizard: Language / time and date

#	Code	Description
[A.1]	N/A	Language
[1]	N/A	Time and date

### 5.2.2 Quick wizard: Standard

#### Backup heater configuration

#	Code	Description
[A.2.1.4]	[E-03]	Backup heater steps: <ul style="list-style-type: none"> <li>0 (default)</li> <li>1</li> <li>2</li> </ul>
[A.2.1.5]	[5-0D]	BUH type: <ul style="list-style-type: none"> <li>1 (1P,(1/1+2)): 6 kW 1~ 230 V (*6W)</li> <li>4 (3PN,(1/2)): 6 kW 3N~ 400 V (*6W)</li> </ul>

#### Backup heater relay setting

Relay setting	Backup heater operation	
	If backup heater step 1 is active:	If backup heater step 2 is active:
1/1+2	Relay 1 ON	Relays 1+2 ON
1/2	Relay 1 ON	Relay 2 ON

#### Space heating settings

#	Code	Description
[A.2.1.7]	[C-07]	Unit temperature control: <ul style="list-style-type: none"> <li>0 (LWT control): Unit operation is decided based on the leaving water temperature.</li> <li>1 (Ext RT control): Unit operation is decided by the external thermostat.</li> <li>2 (RT control): Unit operation is decided based on the ambient temperature of the user interface.</li> </ul>
[A.2.1.B]	N/A	Only if there are 2 user interfaces: User interface location: <ul style="list-style-type: none"> <li>At unit</li> <li>In room</li> </ul>
[A.2.1.8]	[7-02]	Number of water temperature zones: <ul style="list-style-type: none"> <li>0 (1 LWT zone): Main</li> <li>1 (2 LWT zones): Main + additional</li> </ul>
[A.2.1.9]	[F-0D]	Pump operation: <ul style="list-style-type: none"> <li>0 (Continuous): Continuous pump operation, regardless of thermo ON or OFF condition.</li> <li>1 (Sample): When thermo OFF condition occurs, the pump runs every 5 minutes and the water temperature is checked. If the water temperature is below target, unit operation can start.</li> <li>2 (Request): Pump operation based on request. <b>Example:</b> Using a room thermostat and thermostat creates thermo ON/OFF condition.</li> </ul>

### 5.2.3 Quick wizard: Options

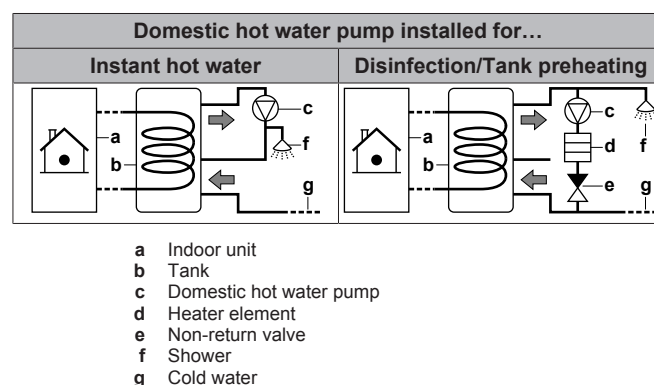
#### Domestic hot water settings



#### INFORMATION

If there is no optional backup heater installed, you must set [E-05] to 1. Otherwise an error code (UA-17) will occur.

#	Code	Description
[A.2.2.1]	[E-05]	DHW operation: Can the system prepare domestic hot water? <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1 (Yes): Installed</li> </ul>
[A.2.2.3]	[E-07]	DHW tank type: <ul style="list-style-type: none"> <li>2 (Type 3): The anti-legionella heater will also be used during disinfection.</li> </ul>
[A.2.2.A]	[D-02]	Domestic hot water pump: <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1 (Secondary rtn): Installed for instant hot water</li> <li>2 (Disinf. shunt): Installed for disinfection</li> <li>3 (Circul. Pump): Installed for tank preheating. Necessary for EHBH_CBV without backup heater.</li> <li>4 (CP &amp; disinf. Sh): Combination of 2 and 3.</li> </ul> See also illustrations below.



#### Thermostats and external sensors



#### NOTICE

If an external room thermostat is used, the external room thermostat will control the room frost protection. However, the room frost protection is only possible if the leaving water temperature control on the unit's user interface is turned ON.

#	Code	Description
[A.2.2.4]	[C-05]	External room thermostat for the <b>main</b> zone: <ul style="list-style-type: none"> <li>1 (Thermo ON/OFF): When the used external room thermostat or heat pump convector can only send a thermo ON/OFF condition.</li> <li>2 (H/C request): Because only heating is possible, the used external room thermostat can only send a thermo ON/OFF condition.</li> </ul>

## 5 Configuration

#	Code	Description
[A.2.2.5]	[C-06]	External room thermostat for the <b>additional</b> zone: <ul style="list-style-type: none"> <li>0: N/A</li> <li>1 (Thermo ON/OFF): When the used external room thermostat or heat pump convector can only send a thermo ON/OFF condition.</li> <li>2 (H/C request): Because only heating is possible, the used external room thermostat can only send a thermo ON/OFF condition.</li> </ul>
[A.2.2.B]	[C-08]	External sensor: <ul style="list-style-type: none"> <li>0 (No): NOT installed.</li> <li>1 (Outdoor sensor): Connected to PCB measuring the outdoor temperature.</li> <li>2 (Room sensor): Connected to PCB measuring the indoor temperature.</li> </ul>

### Digital I/O PCB

#	Code	Description
[A.2.2.6.1]	[C-02]	External backup heater source: <ul style="list-style-type: none"> <li>0 (No): None</li> <li>1 (Bivalent): Gas, oil boiler</li> <li>2: N/A</li> <li>3: N/A</li> </ul>
[A.2.2.6.2]	[D-07]	Solar pump station kit: <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1 (Yes): Installed</li> </ul>
[A.2.2.6.3]	[C-09]	Alarm output on optional EKR1HB PCB: <ul style="list-style-type: none"> <li>0 (Normally open): The alarm output will be powered when an alarm occurs. By setting this value, a distinction is made between the detection of an alarm, and the detection of a power failure.</li> <li>1 (Normally closed): The alarm output will NOT be powered when an alarm occurs.</li> </ul> See also table below (Alarm output logic).
[A.2.2.6.4]	[F-04]	Bottom plate heater <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1 (Yes): Installed</li> </ul>

### Alarm output logic

[C-09]	Alarm	No alarm	No power supply to unit
0 (default)	Closed output	Open output	Open output
1	Open output	Closed output	

### Demand PCB

#	Code	Description
[A.2.2.7]	[D-04]	Demand PCB <p>Only applicable for EHVH04+08. Indicates if the optional demand PCB is installed.</p> <ul style="list-style-type: none"> <li>0 (No)</li> <li>1 (Pwr consmp ctrl)</li> </ul>

### Energy metering

#	Code	Description
[A.2.2.8]	[D-08]	Optional external kWh meter 1: <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1: Installed (0.1 pulse/kWh)</li> <li>2: Installed (1 pulse/kWh)</li> <li>3: Installed (10 pulse/kWh)</li> <li>4: Installed (100 pulse/kWh)</li> <li>5: Installed (1000 pulse/kWh)</li> </ul>
[A.2.2.9]	[D-09]	Optional external kWh meter 2: <ul style="list-style-type: none"> <li>0 (No): NOT installed</li> <li>1: Installed (0.1 pulse/kWh)</li> <li>2: Installed (1 pulse/kWh)</li> <li>3: Installed (10 pulse/kWh)</li> <li>4: Installed (100 pulse/kWh)</li> <li>5: Installed (1000 pulse/kWh)</li> </ul>

### 5.2.4 Quick wizard: Capacities (energy metering)

#	Code	Description
[A.2.3.1]	[6-02]	Anti-legionella heater capacity [kW]
[A.2.3.6]	[6-07]	Bottom plate heater capacity [W]

### 5.2.5 Space heating control

#### Leaving water temperature: Main zone

#	Code	Description
[A.3.1.1.1]	N/A	Set point mode: <ul style="list-style-type: none"> <li>0 (Fixed): Absolute</li> <li>1 (Weather dep.): Weather-dependent</li> <li>2 (Fixed/scheduled): Absolute + scheduled (only for leaving water temperature control)</li> <li>3 (WD/scheduled): Weather-dependent + scheduled (only for leaving water temperature control)</li> </ul>



#	Code	Description
[7.7.1.1]	[1-00] [1-01] [1-02] [1-03]	Weather-dependent curve (heating):  <ul style="list-style-type: none"> <li>• <math>T_t</math>: Target leaving water temperature (main)</li> <li>• <math>T_a</math>: Outdoor temperature</li> </ul>

#### Leaving water temperature: Additional zone

#	Code	Description
[A.3.1.2.1]	N/A	Set point mode: <ul style="list-style-type: none"> <li>• 0 (Fixed): Absolute</li> <li>• 1 (Weather dep.): Weather-dependent</li> <li>• 2 (Fixed/scheduled): Absolute + scheduled (only for leaving water temperature control)</li> <li>• 3 (WD/scheduled): Weather-dependent + scheduled (only for leaving water temperature control)</li> </ul>
[7.7.2.1]	[0-00] [0-01] [0-02] [0-03]	Weather-dependent curve (heating):  <ul style="list-style-type: none"> <li>• <math>T_t</math>: Target leaving water temperature (additional)</li> <li>• <math>T_a</math>: Outdoor temperature</li> </ul>

#### Leaving water temperature: Delta T source

#	Code	Description
[A.3.1.3.1]	[9-09]	Heating: required temperature difference between entering and leaving water.  In case a minimum temperature difference is required for the good operation of the heat emitters in heating mode.

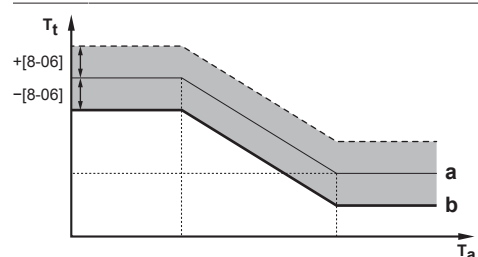
#### Leaving water temperature: Modulation

#	Code	Description
[A.3.1.1.5]	[8-05]	Leaving water temperature modulation: <ul style="list-style-type: none"> <li>• 0 (No): Disabled</li> <li>• 1 (Yes): Enabled. The leaving water temperature is calculated according to the difference between desired and actual room temperature. This allows better matching of the heat pump capacity to actual required capacity and results in less start/stop cycles of the heat pump and more economic operation.</li> </ul>
N/A	[8-06]	Leaving water temperature maximum modulation: 0°C~10°C (default: 3°C) Requires modulation to be enabled. This is the value by which the desired leaving water temperature is increased or lowered.



#### INFORMATION

When leaving water temperature modulation is enabled, the weather-dependent curve needs to be set to a higher position than [8-06] plus the minimum leaving water temperature setpoint required to reach a stable condition on the comfort setpoint for the room. To increase efficiency, modulation can lower the leaving water setpoint. By setting the weather-dependent curve to a higher position, it cannot drop below the minimum setpoint. Refer to the illustration below.



- a Weather-dependent curve
- b Minimum leaving water temperature setpoint required to reach a stable condition on the comfort setpoint for the room.

#### Leaving water temperature: Emitter type

#	Code	Description
[A.3.1.1.7]	[9-0B]	Reaction time of the system: <ul style="list-style-type: none"> <li>• 0: Quick. <b>Example:</b> Small water volume and fan coils.</li> <li>• 1: Slow. <b>Example:</b> Large water volume, floor heating loops.</li> </ul> Depending on the system water volume and the heat emitters type, the heat up of a space can take longer. This setting can compensate for a slow or a quick heating system by adjusting the unit capacity during the heat up cycle.

## 5 Configuration

### 5.2.6 Domestic hot water control

#	Code	Description
[A.4.1]	[6-0D]	Domestic hot water Type: <ul style="list-style-type: none"><li>▪ 0 (Reheat only): Only reheat operation is allowed.</li><li>▪ 1 (Reheat + sched.): Same as 2, but between the scheduled heatup cycles, reheat operation is allowed.</li><li>▪ 2 (Scheduled only): The domestic hot water tank can ONLY be heated according to a schedule.</li></ul>
[A.4.5]	[6-0E]	The maximum temperature that users can select for the domestic hot water. You can use this setting to limit the temperature at the hot water taps.



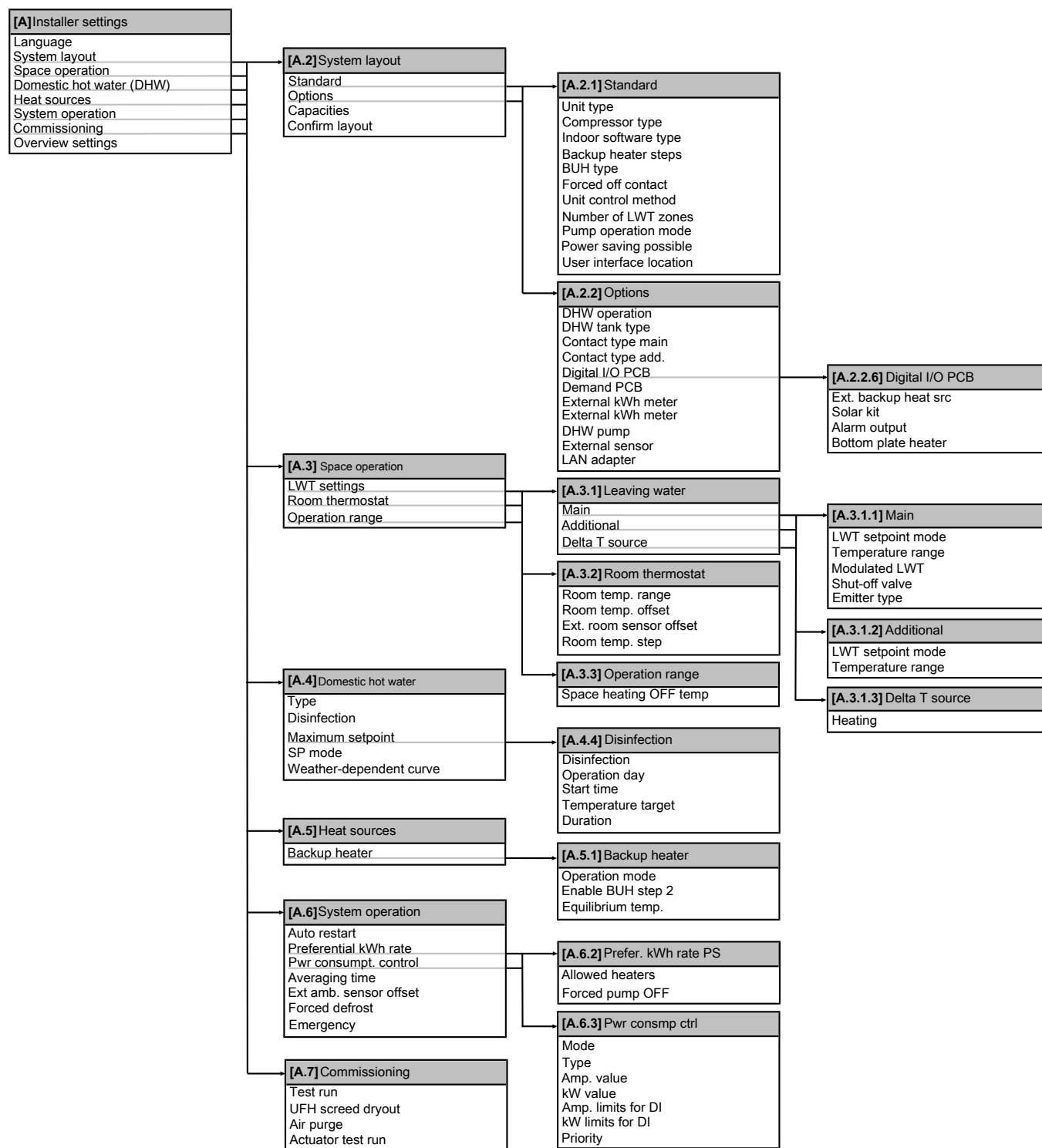
#### INFORMATION

There is a risk of space heating capacity shortage/comfort problem (in case of frequent domestic hot water operation, frequent and long space heating interruption will happen) when selecting [6-0D]=0 ([A.4.1] Domestic hot water Type=Reheat only).

### 5.2.7 Contact/helpdesk number

#	Code	Description
[6.3.2]	N/A	Number that users can call in case of problems.

### 5.3 Menu structure: Overview installer settings



#### INFORMATION

Depending on the selected installer settings and unit type, settings will be visible/invisible.



#### INFORMATION

**Anti-legionella heater.** In the menu structure the term "Booster heater" is used. However, this is actually an anti-legionella heater.

## 6 Commissioning

### 6 Commissioning



#### NOTICE

NEVER operate the unit without thermistors and/or pressure sensors/switches. Burning of the compressor might result.

#### 6.1 Checklist before commissioning

Do NOT operate the system before the following checks are OK:

<input type="checkbox"/>	You read the complete installation instructions, as described in the <b>installer reference guide</b> .
<input type="checkbox"/>	The <b>indoor unit</b> is properly mounted.
<input type="checkbox"/>	Only if you use the optional backup heater: The <b>backup heater</b> is properly mounted.
<input type="checkbox"/>	The <b>outdoor unit</b> is properly mounted.
<input type="checkbox"/>	The following <b>field wiring</b> has been carried out according to this document and the applicable legislation: <ul style="list-style-type: none"><li>Between the local supply panel and the outdoor unit</li><li>Between indoor unit and outdoor unit</li><li>Between the local supply panel and the indoor unit</li><li>Between the indoor unit and the valves (if applicable)</li><li>Between the indoor unit and the room thermostat (if applicable)</li></ul>
<input type="checkbox"/>	The system is properly <b>earthed</b> and the earth terminals are tightened.
<input type="checkbox"/>	The <b>fuses</b> or locally installed protection devices are installed according to this document, and have NOT been bypassed.
<input type="checkbox"/>	The <b>power supply voltage</b> matches the voltage on the identification label of the unit.
<input type="checkbox"/>	There are NO <b>loose connections</b> or damaged electrical components in the switch box.
<input type="checkbox"/>	There are NO <b>damaged components</b> or <b>squeezed pipes</b> on the inside of the indoor and outdoor units.
<input type="checkbox"/>	Only if you use the optional backup heater: Depending on the backup heater type, <b>backup heater circuit breaker</b> F1B (on the switch box of the backup heater) is turned ON.
<input type="checkbox"/>	The <b>anti-legionella heater circuit breaker</b> F2B on the switch box is turned ON.
<input type="checkbox"/>	There are NO <b>refrigerant leaks</b> .
<input type="checkbox"/>	The <b>refrigerant pipes</b> (gas and liquid) are thermally insulated.
<input type="checkbox"/>	The correct pipe size is installed and the <b>pipes</b> are properly insulated.
<input type="checkbox"/>	There is NO <b>water leak</b> inside the indoor unit.
<input type="checkbox"/>	The <b>shut-off valves</b> are properly installed and fully open.
<input type="checkbox"/>	The <b>stop valves</b> (gas and liquid) on the outdoor unit are fully open.
<input type="checkbox"/>	The <b>air purge</b> valve is open (at least 2 turns).
<input type="checkbox"/>	The <b>pressure relief valve</b> purges water when opened.
<input type="checkbox"/>	The <b>minimum water volume</b> is guaranteed in all conditions. See "To check the water volume" in <a href="#">"3.2 Preparing water piping" on page 4</a> .



The **domestic hot water tank** is filled completely.



#### INFORMATION

The software is equipped with an "installer-on-site" mode ([4-0E]), that disables automatic operation by the unit. At first installation, setting [4-0E] is by default set to "1", meaning automatic operation is disabled. All protective functions are then disabled. If the user interface home pages are off, the unit will NOT operate automatically. To enable automatic operation and the protective functions, set [4-0E] to "0".

36 hours after the first power-on, the unit will automatically set [4-0E] to "0", ending "installer-on-site" mode and enabling the protective functions. If – after first installation – the installer returns to the site, the installer has to set [4-0E] to "1" manually.

#### 6.2 Checklist during commissioning

<input type="checkbox"/>	The <b>minimum flow rate</b> during backup heater/defrost operation is guaranteed in all conditions. See "To check the water volume and flow rate" in <a href="#">"3.2 Preparing water piping" on page 4</a> .
<input type="checkbox"/>	To perform an <b>air purge</b> .
<input type="checkbox"/>	To perform a <b>test run</b> .
<input type="checkbox"/>	To perform an <b>actuator test run</b> .
<input type="checkbox"/>	<b>Underfloor screed dryout function</b> The underfloor screed dryout function is started (if necessary).


##### 6.2.1 To check the minimum flow rate


- 1 Confirm according to the hydraulic configuration which space heating loops can be closed due to mechanical, electronic, or other valves.
- 2 Close all space heating loops that can be closed (see previous step).
- 3 Start the pump test run operation (see ["6.2.4 To perform an actuator test run" on page 19](#)).
- 4 Go to [6.1.8]: > Information > Sensor information > Flow rate to check the flow rate. During pump test run operation, the unit can operate below this minimum required flow rate.

Bypass valve foreseen?	
Yes	No
Modify the bypass valve setting to reach the minimum required flow rate + 2 l/min	In case the actual flow rate is below the minimum flow rate, modifications at the hydraulic configuration are required. Increase the space heating loops that can NOT be closed or install a pressure-controlled bypass valve.
Minimum required flow rate	
04+08 models	12 l/min
11+16 models	15 l/min

##### 6.2.2 To perform an air purge


**Prerequisite:** Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.


- 1 Go to [A.7.3]:  > Installer settings > Commissioning > Air purge.
- 2 Set the type.
- 3 Select Start air purge and press **OK**.
- 4 Select OK and press **OK**.

**Result:** The air purge starts. It stops automatically when done. To stop it manually, press , select OK and press **OK**.

### 6.2.3 To perform a test run

**Prerequisite:** Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

- 1 Set the user permission level to Installer. See ["To set the user permission level to Installer" on page 12](#).
- 2 Go to [A.7.1]:  > Installer settings > Commissioning > Test run.
- 3 Select a test and press **OK**. **Example:** Heating.
- 4 Select OK and press **OK**.

**Result:** The test run starts. It stops automatically when done (±30 min). To stop it manually, press , select OK and press **OK**.



#### INFORMATION

When starting up the system in a cold climate, and NO backup heater kit was installed, it may be required to start up with a small water volume. To do this, gradually open the heat emitters. As a result, the water temperature will gradually rise. Monitor the inlet water temperature ([6.1.6] in the menu structure) and make sure it does NOT drop below 15°C.




#### INFORMATION

If 2 user interfaces are present, you can start a test run from both user interfaces.

- The user interface used to start the test run displays a status screen.
- The other user interface displays a "busy" screen. You cannot use the user interface as long as the "busy" screen is shown.

### 6.2.4 To perform an actuator test run

**Prerequisite:** Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

- 1 Set the user permission level to Installer. See ["To set the user permission level to Installer" on page 12](#).
- 2 Make sure the room temperature control, the leaving water temperature control and the domestic hot water control are turned OFF via the user interface.
- 3 Go to [A.7.4]:  > Installer settings > Commissioning > Actuator test run.
- 4 Select an actuator and press **OK**. **Example:** Pump.
- 5 Select OK and press **OK**.

**Result:** The actuator test run starts. It automatically stops when finished. To stop it manually, press , select OK and press **OK**.

#### Possible actuator test runs

- Booster heater test
- Backup heater (step 1) test
- Backup heater (step 2) test
- Pump test



#### INFORMATION


Make sure that all air is purged before executing the test run. Also avoid disturbances in the water circuit during the test run.


- Solar pump test
- 2-way valve test
- 3-way valve test
- Bottom plate heater test
- Bivalent signal test
- Alarm output test
- Cooling/heating signal
- Quick heat-up test
- Circulation pump test

### 6.2.5 To perform an underfloor heating screed dryout

**Prerequisite:** Make sure there is ONLY 1 user interface connected to your system to perform an underfloor heating screed dryout.

**Prerequisite:** Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

- 1 Go to [A.7.2]:  > Installer settings > Commissioning > UFH screed dryout.
- 2 Set a dryout program.
- 3 Select Start dryout and press **OK**.
- 4 Select OK and press **OK**.

**Result:** The underfloor heating screed dryout starts. It stops automatically when done. To stop it manually, press , select OK and press **OK**.



#### NOTICE

To perform an underfloor heating screed dryout, room frost protection needs to be disabled ([2-06]=0). By default, it is enabled ([2-06]=1). However, due to the "installer-on-site" mode (see "Checklist before commissioning"), room frost protection will be automatically disabled for 36 hours after the first power-on.

If the screed dryout still needs to be performed after the first 36 hours of power-on, manually disable room frost protection by setting [2-06] to "0", and KEEP it disabled until the screed dryout has finished. Ignoring this notice will result in cracking of the screed.



#### NOTICE

For the underfloor heating screed dryout to be able to start, make sure the following settings are met:

- [4-00]=1
- [C-02]=0
- [D-01]=0
- [4-08]=0
- [4-01]≠1

## 7 Hand-over to the user

Once the test run is finished and the unit operates properly, please make sure the following is clear for the user:

- Fill in the installer setting table (in the operation manual) with the actual settings.

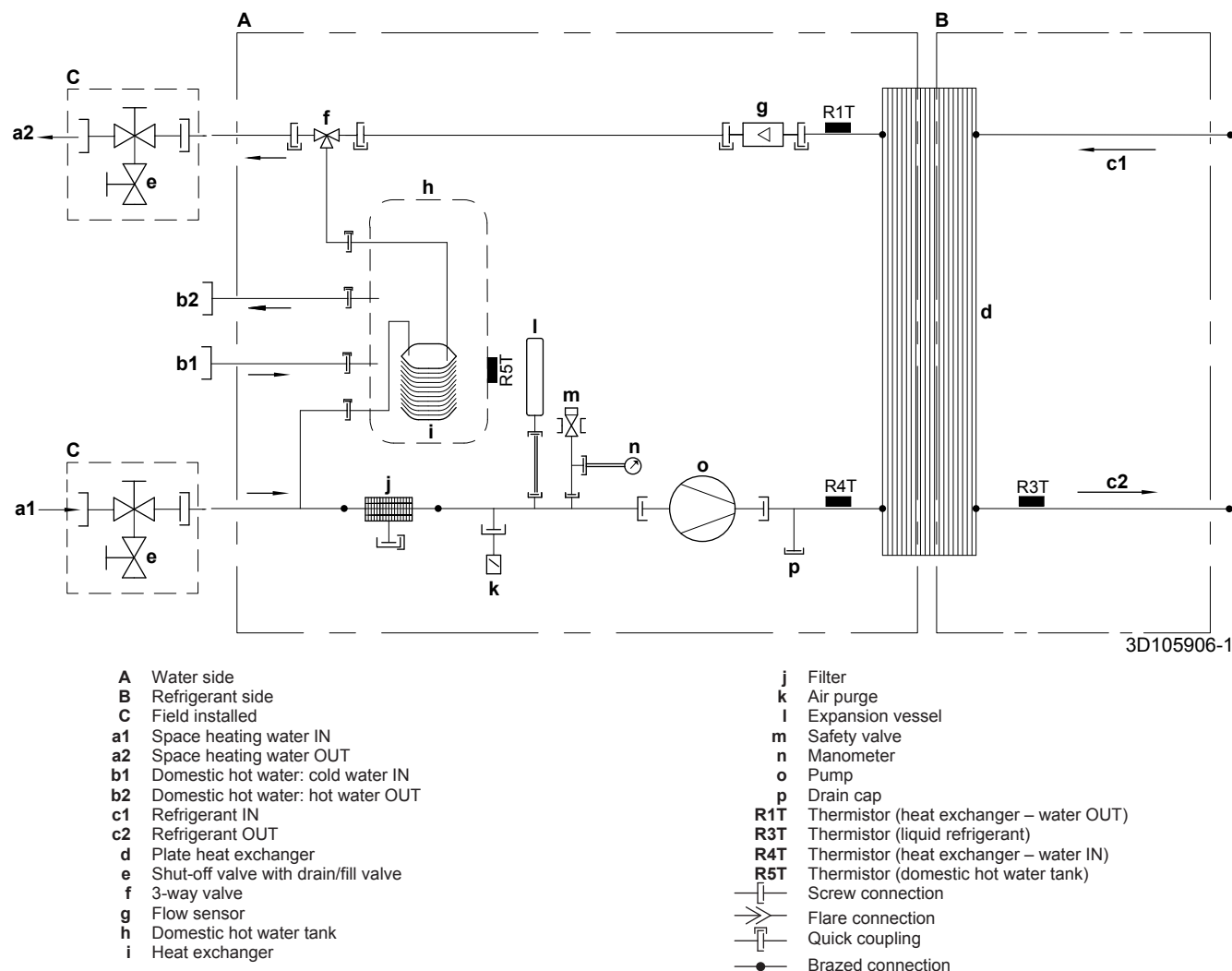
## 8 Technical data

- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he can find the complete documentation on the url as earlier described in this manual.
- Explain the user how to properly operate the system and what to do in case of problems.
- Show the user what to do in relation to maintaining the unit.
- Explain the user about energy saving tips as described in the operation manual.

## 8 Technical data

A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible). The **full set** of latest technical data is available on the Daikin extranet (authentication required).

### 8.1 Piping diagram: Indoor unit



### 8.2 Wiring diagram: Indoor unit

See the internal wiring diagram supplied with the unit (on the inside of the indoor unit switch box cover). The abbreviations used are listed below.

#### Notes to go through before starting the unit

English	Translation
Notes to go through before starting the unit	Notes to go through before starting the unit
X1M	Main terminal
X2M	Field wiring terminal for AC
X3M	Backup heater terminal
X4M	Anti-legionella heater terminal

English	Translation
X5M	Field wiring terminal for DC
-----	Earth wiring
15	Wire number 15
-----	Field supply
→ **/12.2	Connection ** continues on page 12 column 2
①	Several wiring possibilities



English	Translation
	Option
	Not mounted in switch box
	Wiring depending on model
	PCB
User installed options	User installed options
<input type="checkbox"/> Anti-legionella heater	<input type="checkbox"/> Anti-legionella heater
<input type="checkbox"/> Backup heater	<input type="checkbox"/> Backup heater
<input type="checkbox"/> Bottom plate heater	<input type="checkbox"/> Bottom plate heater
<input type="checkbox"/> Domestic hot water tank	<input type="checkbox"/> Domestic hot water tank
<input type="checkbox"/> Domestic hot water tank with solar connection	<input type="checkbox"/> Domestic hot water tank with solar connection
<input type="checkbox"/> Remote user interface	<input type="checkbox"/> Remote user interface
<input type="checkbox"/> Ext. indoor thermistor	<input type="checkbox"/> External indoor thermistor
<input type="checkbox"/> Ext outdoor thermistor	<input type="checkbox"/> External outdoor thermistor
<input type="checkbox"/> Digital I/O PCB	<input type="checkbox"/> Digital I/O PCB
<input type="checkbox"/> Demand PCB	<input type="checkbox"/> Demand PCB
<input type="checkbox"/> Solar pump and control station	<input type="checkbox"/> Solar pump and control station
Main LWT	Main leaving water temperature
<input type="checkbox"/> On/OFF thermostat (wired)	<input type="checkbox"/> On/OFF thermostat (wired)
<input type="checkbox"/> On/OFF thermostat (wireless)	<input type="checkbox"/> On/OFF thermostat (wireless)
<input type="checkbox"/> Ext. thermistor	<input type="checkbox"/> External thermistor
<input type="checkbox"/> Heat pump convector	<input type="checkbox"/> Heat pump convector
Add LWT	Additional leaving water temperature
<input type="checkbox"/> On/OFF thermostat (wired)	<input type="checkbox"/> On/OFF thermostat (wired)
<input type="checkbox"/> On/OFF thermostat (wireless)	<input type="checkbox"/> On/OFF thermostat (wireless)
<input type="checkbox"/> Ext. thermistor	<input type="checkbox"/> External thermistor
<input type="checkbox"/> Heat pump convector	<input type="checkbox"/> Heat pump convector

**Position in switch box**

English	Translation
Position in switch box	Position in switch box

**Legend**

A1P	Main PCB
A2P	User interface PCB
A3P	* Solar pump station PCB
A3P	* On/OFF thermostat (PC=power circuit)
A3P	* Heat pump convector
A4P	* Digital I/O PCB
A4P	* Receiver PCB (Wireless On/OFF thermostat)
A5P	Anode driver PCB
A8P	* Demand PCB
BSK	* Solar pump station relay
DS1(A8P)	* DIP switch
F2B	(*) Overcurrent fuse anti-legionella heater
F1U, F2U	* Fuse 5 A 250 V for digital I/O PCB
K1	* Terminal strip
K3M	(*) Contactor anti-legionella heater
K*R	Relay on PCB
M2P	# Domestic hot water pump
M2S	# Shut-off valve
M3S	(*) 3-way valve for floor heating/domestic hot water

PHC1 (A4P)	* Optocoupler input circuit
Q*DI	# Earth leakage circuit breaker
Q*L	(*) Thermal protector anti-legionella heater
R1T (A3P)	* Ambient sensor On/OFF thermostat
R2T	* External sensor (floor or ambient)
R5T	(*) Domestic hot water thermistor
R6T	* External indoor or outdoor ambient thermistor
R1H (A3P)	* Humidity sensor
S1S	# Preferential kWh rate power supply contact
S2S	# Electrical meter pulse input 1
S3S	# Electrical meter pulse input 2
S4S	# Safety thermostat
S6S~S9S	# Digital power limitation inputs
SS1 (A4P)	* Selector switch
TR1	Power supply transformer
X*M	Terminal strip
X*Y	Connector
	* = Optional
	(*) = Standard for EHVH*, optional for EHBH*
	# = Field supply

**Translation of text on wiring diagram**

English	Translation
(1) Main power connection	(1) Main power connection
For preferential kWh rate power supply	For preferential kWh rate power supply
Indoor unit supplied from outdoor	Indoor unit supplied from outdoor
Normal kWh rate power supply	Normal kWh rate power supply
Only for normal power supply (standard)	Only for normal power supply (standard)
Only for preferential kWh rate power supply (outdoor)	Only for preferential kWh rate power supply (outdoor)
Outdoor unit	Outdoor unit
Preferential kWh rate power supply contact: 16 V DC detection (voltage supplied by PCB)	Preferential kWh rate power supply contact: 16 V DC detection (voltage supplied by PCB)
Use normal kWh rate power supply for indoor unit	Use normal kWh rate power supply for indoor unit
(2) User interface	(2) User interface
Only for remote user interface option	Only for remote user interface option
SWB	Switch box
(3) Ext. thermistor	(3) External thermistor
SWB	Switch box
(4) Field supplied options	(4) Field supplied options
230 V AC supplied by PCB	230 V AC supplied by PCB
5 V DC pulse detection (voltage supplied by PCB)	5 V DC pulse detection (voltage supplied by PCB)
Continuous	Continuous current
DHW pump	Domestic hot water pump
DHW pump output	Domestic hot water pump output
Electrical meters	Electrical meters
For safety thermostat	For safety thermostat
Inrush	Inrush current
Max. load	Maximum load

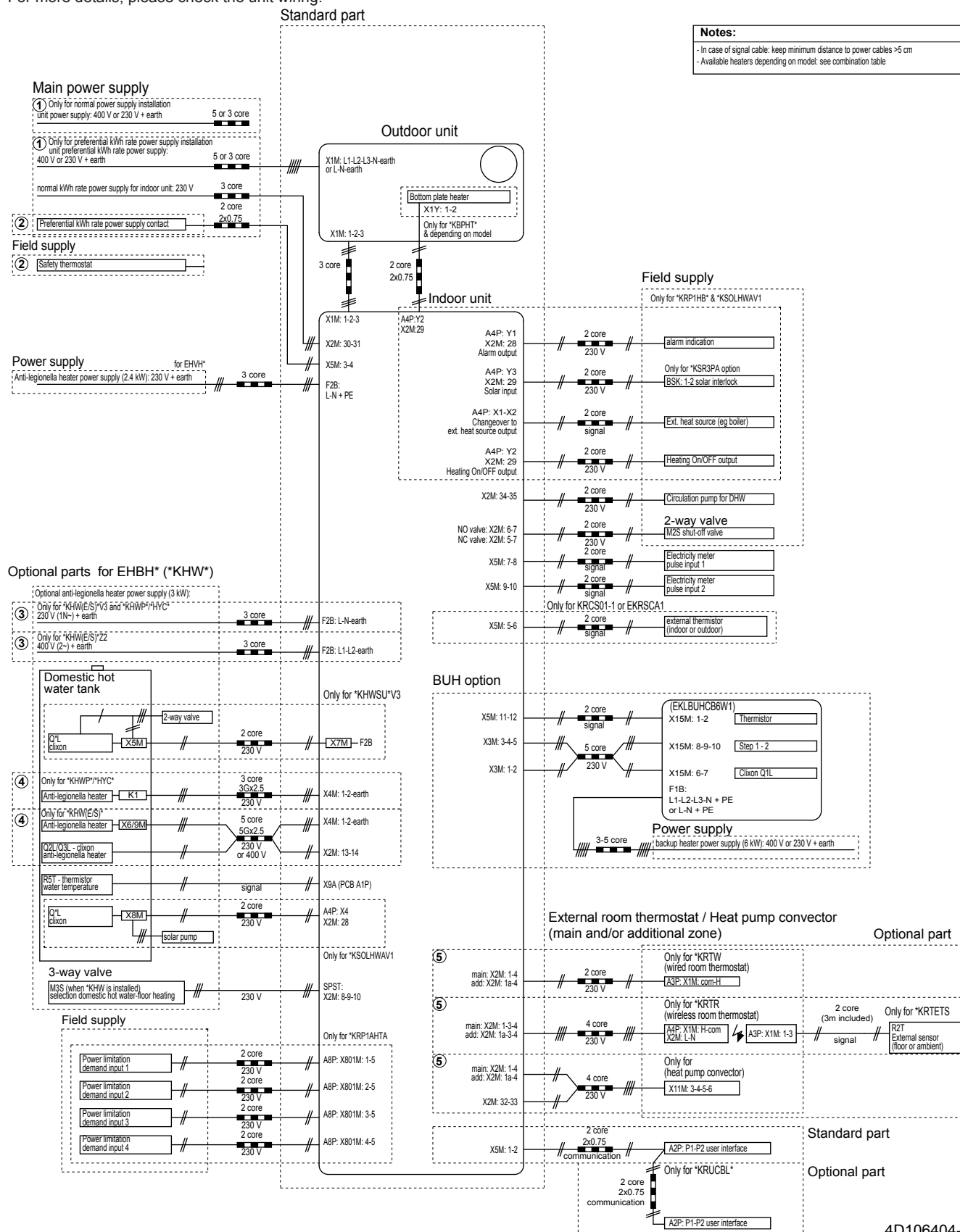
## 8 Technical data

English	Translation
Normally closed	Normally closed
Normally open	Normally open
Safety thermostat contact: 16 V DC detection (voltage supplied by PCB)	Safety thermostat contact: 16 V DC detection (voltage supplied by PCB)
Shut-off valve	Shut-off valve
SWB	Switch box
(5) Domestic hot water tanks	(5) Domestic hot water tanks
3 wire type SPST	3 wire type SPST
Anti-legionella heater power supply	Anti-legionella heater power supply
For ***	For ***
For *** or ***	For *** or ***
SWB	Switch box
(6) Optional BUH	(6) Optional backup heater
SWB	Switch box
(7) Anti-legionella heater power supply	(7) Anti-legionella heater power supply
For ***	For ***
(8) Option PCBs	(8) Option PCBs
Alarm output	Alarm output
Changeover to ext. heat source	Changeover to external heat source
For digital I/O PCB option	For digital I/O PCB option
For solar pump station	For solar pump station
Max. load	Maximum load
Min. load	Minimum load

English	Translation
Only for ***	Only for ***
Only for demand PCB option	Only for demand PCB option
Only if no ***	Only if no ***
Options: boiler output, solar pump connection (only EHBH*), alarm output	Options: boiler output, solar pump connection (only EHBH*), alarm output
Options: bottom plate heater OR On/OFF output	Options: bottom plate heater OR On/OFF output
Outdoor unit	Outdoor unit
Power limitation digital inputs: 12 V DC / 12 mA detection (voltage supplied by PCB)	Power limitation digital inputs: 12 V DC / 12 mA detection (voltage supplied by PCB)
Refer to operation manual	Refer to operation manual
Solar pump connection	Solar pump connection
Space C/H On/OFF output	Space cooling/heating On/OFF output
Switch box	Switch box
To bottom plate heater	To bottom plate heater
(9) External On/OFF thermostats and heat pump convector	(9) External On/OFF thermostats and heat pump convector
Additional LWT zone	Additional leaving water temperature zone
For external sensor (floor/ambient)	For external sensor (floor or ambient)
For heat pump convector	For heat pump convector
For wired thermostat	For wired thermostat
For wireless thermostat	For wireless thermostat
Main LWT zone	Main leaving water temperature zone

## Electrical connection diagram

For more details, please check the unit wiring.



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