Service instructions

for contractors

System configuration and diagnosis for heat pumps with Viessmann One Base

Using "ViGuide App"/"ViGuide Plus"/"ViGuide Pro"

System configuration and diagnosis for heat pumps with Viessmann One Base

6194799 GB 3/2022

Please keep safe.

Safety instructions

⚠ Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained

⚠ **Danger**
This symbol warns against the risk of injury.

! **Please note**
This symbol warns against the risk of material losses and environmental pollution.

Note
Details identified by the word "Note" contain additional information.

Different safety instructions need to be observed for the respective heat pumps, depending on which refrigerant is used.

 **Safety instructions for respective heat pump**
Installation and service instructions

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Scope of functions

These instructions contain the following information for air source heat pumps with indoor and outdoor unit and the Viessmann One Base control platform:
- Control parameters for matching the heat pump to different requirements and operating conditions
- Troubleshooting measures

Further information is available in the following documents for the respective heat pump:

Information	Operating instructions	Installation and service instructions	Connection and wiring diagram	Technical guide
Electronics modules and electrical connections		X	X	
Position of temperature sensors and other components		X		
Commissioning		X		
Settings on the HMI programming unit	X	X		
Further messages		X		
Performance graphs for heating and cooling		X		X
Specification		X		X

Heat pumps

Heat pump	Type	Implementation	
		Split	Monoblock
Vitocal 150-A	AWO(-M)-E-AC 151.**A**		X
	AWO(-M)-E-AC-AF 151.**A**		X
Vitocal 151-A	AWOT(-M)-E-AC 151.**A**		X
	AWOT(-M)-E-AC-AF 151.**A**		X
Vitocal 200-S	AWB-M-E-AC 201.**E**	X	
	AWB-M-E-AC-AF 201.**E**	X	
	AWB-M-E-AC 201.**E** 2C	X	
	AWB-M-E-AC-AF 201.**E** 2C	X	
Vitocal 222-S	AWBT-M-E-AC 201.**E**	X	
	AWBT-M-E-AC-AF 201.**E**	X	
	AWBT-M-E-AC 201.**E** 2C	X	
	AWBT-M-E-AC-AF 201.**E** 2C	X	
Vitocal 250-A	AWO(-M)-E-AC 251.**A**		X
	AWO(-M)-E-AC-AF 251.**A**		X
	AWO(-M)-E-AC 251.**A** 2C		X
	AWO(-M)-E-AC-AF 251.**A** 2C		X
Vitocal 250-AH	HAWO(-M)-AC 252.**A**		X
	HAWO(-M)-AC-AF 252.**A**		X
Vitocal 250-SH	HAWB-M-AC 252.**B**	X	
	HAWB-M-AC-AF 252.**B**	X	

Heat pumps (cont.)

Heat pump	Type	Implementation	
		Split	Monoblock
Vitocal 252-A	AWOT(-M)-E-AC 251.**A**		X
	AWOT(-M)-E-AC-AF 251.**A**		X
	AWOT(-M)-E-AC 251.**A** 2C		X
	AWOT(-M)-E-AC-AF 251.**A** 2C		X

System examples

System examples with hydraulic and electric connection diagrams as well a detailed function description are available to aid the understanding of the heat pump control unit function.

Detailed information regarding system examples:
www.viessmann-schemes.com

Parameter settings

- Depending on the system equipment and which user interface is selected, not all parameters will be available.
- Some parameters can be set with the aid of the commissioning assistant via the HMI programming unit or via the ViGuide app.
  Heat pump installation and service instructions
- The parameters in these instructions are adjustable via "ViGuide app", "ViGuide Plus" or "ViGuide Pro": See page 8 onwards.
- The functional description of these parameters is aimed at heat pump contractors.
- The factory settings and setting ranges for the parameters may vary for different heat pumps and system configurations.
  These values are read out from the heat pump control unit via the respective app and displayed on the app's user interface.

Troubleshooting

Messages are displayed on the HMI programming unit as well as via the ViGuide user interfaces.

Heat pump	Fault and warning messages
Vitocal 200-S/222-S	Page 31
Vitocal 150-A/151-A	Page 50
Vitocal 250-A/252-A	
Vitocal 250-AH	Page 72

General parameters

896.0 Display correction for outside temperature

To compensate for systematic measuring faults, a correction value (offset) can be set for the outside temperature sensor.

The correction value can be positive or negative. The correction value is added to the current outside temperature measurement.

919.0 Outside temperature damping factor

Time constant for calculating the adjusted outside temperature (low pass filter)

This outside temperature is used for:
- Calculating the set flow temperature for central heating
- Switching room cooling on/off

Note
In order to achieve a system response within the intended time window, outside temperature values with non adjustable damping are used for other functions (e.g. the frost protection function).

The continuous averaging of actual temperatures reduces the influence of brief temperature fluctuations. The mathematical method applied acts like an attenuation. With this attenuation, the adjusted outside temperature achieves the following values after a sudden temperature change:
- 63 % of the change after a single averaging interval
- 95 % of the change after three averaging intervals

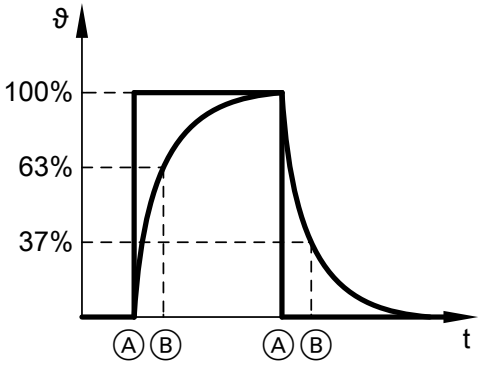

Fig. 1

Ⓐ Time of the sudden temperature change
Ⓑ Expiry of one averaging interval

In practical use, this characteristic results not only in an adjustment but also a delay in capturing the outside temperature.

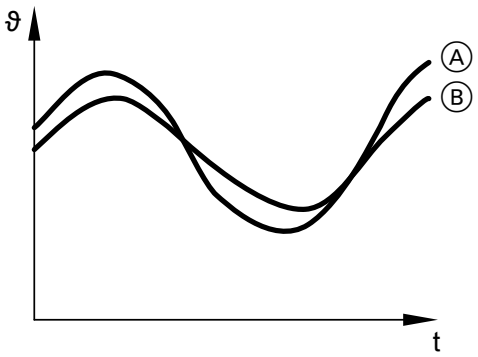

Fig. 2

Ⓐ Outside temperature (not adjusted)
Ⓑ Adjusted outside temperature

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Parameters for heating/cooling circuits

Important information

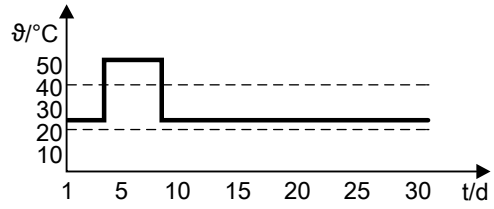
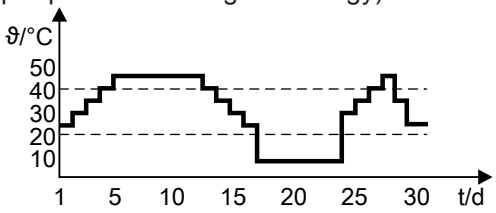
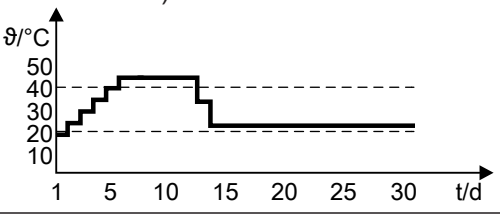
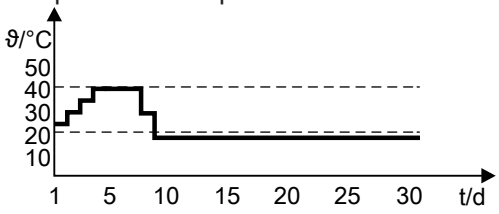
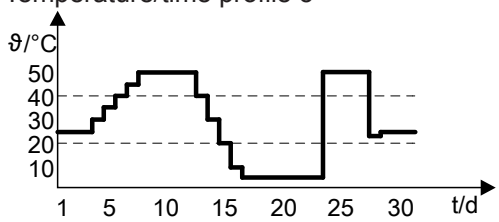
- *Room cooling is possible only via the heating/cooling circuits connected **directly** to the indoor unit: Depending on heat pump type, via heating/cooling circuit 1 and/or heating/cooling circuit 2*
- *Room cooling is **not** possible in combination with a heating water buffer cylinder; only room heating via **all** heating/cooling circuits is possible.*
- *The type of cooling circuit is configured in the commissioning assistant, e.g. cooling via underfloor heating circuit, cooling via fan convectors, etc. Temperature adjustment is dependent on the selected type of cooling circuit. For cooling via fan convectors, for example, the set flow temperature can be set to a lower value than for cooling via underfloor heating circuits.*

897.0 Screed drying

Selection of profiles for screed drying:
Screed drying starts straight away and affects all heating circuits.
Set speed of the secondary pump during screed drying: **1100.2**

Note

If screed drying is interrupted (e.g. due to a power cut), screed drying resumes automatically from the last position once the heat pump control unit has been restarted.

Value	Meaning
0	No screed drying or end screed drying.
1	Temperature/time profile 1 (in acc. with EN 1264-4) 
2	Temperature/time profile 2 (in acc. with ZV parquet and flooring technology) 
3	Temperature/time profile 3 (in acc. with Austrian Standards) 
4	Temperature/time profile 4 
5	Temperature/time profile 5 
6	Temperature/time profile 6 

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Parameters for heating/cooling circuits (cont.)

933.5 Temperature differential, flow temperature, heating/cooling circuit 1

The required heating water temperature for heating/cooling circuit 1 with mixer corresponds to the set flow temperature for this heating/cooling circuit, plus the temperature differential set here.

This enables the mixer to regulate more effectively and prevents it from being permanently open.

933.6 Room temperature influence, heating, heating/cooling circuit 1

Only for heating operation via heating/cooling circuit 1 in conjunction with a room temperature sensor

Value	Meaning
0	Weather-compensated control without room temperature influence
1	Weather-compensated control with room temperature influence

934.5 Temperature differential, flow temperature, heating/cooling circuit 2

The required heating water temperature for heating/cooling circuit 2 with mixer corresponds to the set flow temperature for this heating/cooling circuit, plus the temperature differential set here.

This enables the mixer to regulate more effectively and prevents it from being permanently open.

934.6 Room temperature influence, heating, heating/cooling circuit 2

Only for heating operation via heating/cooling circuit 2 in conjunction with a room temperature sensor

Value	Meaning
0	Weather-compensated control without room temperature influence
1	Weather-compensated control with room temperature influence

935.5 Temperature differential, flow temperature, heating/cooling circuit 3

The required heating water temperature for heating/cooling circuit 3 with mixer corresponds to the set flow temperature for this heating/cooling circuit, plus the temperature differential set here.

This enables the mixer to regulate more effectively and prevents it from being permanently open.

935.6 Room temperature influence, heating, heating/cooling circuit 3

Only for heating operation via heating/cooling circuit 3 in conjunction with a room temperature sensor

Value	Meaning
0	Weather-compensated control without room temperature influence
1	Weather-compensated control with room temperature influence

936.5 Temperature differential, flow temperature, heating/cooling circuit 4

The required heating water temperature for heating/cooling circuit 4 with mixer corresponds to the set flow temperature for this heating/cooling circuit, plus the temperature differential set here.

This enables the mixer to regulate more effectively and prevents it from being permanently open.

Parameters for heating/cooling circuits (cont.)

936.6 Room temperature influence, heating, heating/cooling circuit 4

Only for heating operation via heating/cooling circuit 4 in conjunction with a room temperature sensor

Value	Meaning
0	Weather-compensated control without room temperature influence
1	Weather-compensated control with room temperature influence

1100.0 Min. speed, secondary pump

Minimum speed of the internal secondary circuit pump

Do not adjust!

1100.1 Max. speed, secondary pump

Maximum speed of the internal secondary circuit pump

Do not adjust!

1100.2 Set speed, secondary pump, heating

Set speed of the internal secondary pump for central heating

1192.0 Min. flow temperature, heating, heating/cooling circuit 1

Set flow temperature limit for heating via heating/cooling circuit 1

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.
This value cannot be set higher than max. value **1192.1**.

1192.1 Max. flow temperature, heating, heating/cooling circuit 1

Set flow temperature limit for heating via heating/cooling circuit 1

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

Note
- *Since the heat pump control unit only limits the set value with this parameter, a temperature limiter for restricting the maximum temperature (accessories) must be installed in the flow of an **underfloor heating circuit**.*
- *If heating/cooling circuit 1 is a directly connected heating/cooling circuit without mixer, the max. set flow temperature cannot be adjusted.*
  In this case, the max. set flow temperature is equivalent to the highest required set system flow temperature.

1193.0 Min. flow temperature, heating, heating/cooling circuit 2

Set flow temperature limit for heating via heating/cooling circuit 2

Parameters for heating/cooling circuits (cont.)

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.
This value cannot be set higher than max. value **1193.1**.

1193.1 Max. flow temperature, heating, heating/cooling circuit 2

Set flow temperature limit for heating via heating/cooling circuit 2

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

Note
- *Since the heat pump control unit only limits the set value with this parameter, a temperature limiter for restricting the maximum temperature (accessories) must be installed in the flow of an **underfloor heating circuit**.*
- *For heat pump type ... 2C, heating/cooling circuit 2 can be connected directly to the heat pump. In this case, the max. set flow temperature cannot be higher than the max. value for heating/cooling circuit 1 in **1192.1**.*

1194.0 Min. flow temperature, heating, heating/cooling circuit 3

Set flow temperature limit for heating via heating/cooling circuit 3

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.
This value cannot be set higher than max. value **1194.1**.

1194.1 Max. flow temperature, heating, heating/cooling circuit 3

Set flow temperature limit for heating via heating/cooling circuit 3

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

Note
*Since the heat pump control unit only limits the set value with this parameter, a temperature limiter for restricting the maximum temperature (accessories) must be installed in the flow of an **underfloor heating circuit**.*

1195.0 Min. flow temperature, heating, heating/cooling circuit 4

Set flow temperature limit for heating via heating/cooling circuit 4

Parameters for heating/cooling circuits (cont.)

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.
This value cannot be set higher than max. value **1195.1**.

1195.1 Max. flow temperature, heating, heating/cooling circuit 4

Set flow temperature limit for heating via heating/cooling circuit 4

The set flow temperature for heating mode results from the following:
- Weather-compensated heating mode: In line with the set heating curve and the set room temperature
- Room temperature-dependent heating mode (room temperature sensor required): From the differential between the set and the actual room temperature

If the calculation results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

Note
*Since the heat pump control unit only limits the set value with this parameter, a temperature limiter for restricting the maximum temperature (accessories) must be installed in the flow of an **underfloor heating circuit**.*

1240.0 Operating mode, secondary pump

If the secondary pump is switched on, this circulation pump runs in the selected operating mode.

Value	Meaning
0	Do not adjust!
1	Do not adjust!
2	Do not adjust!
3	Do not adjust!
4	Operation with constant speed setting (**1100.2**)
5	Do not adjust!
6	Do not adjust!
7	Do not adjust!

1395.1 Heating limit, economy function, outside temperature, heating/cooling circuit 1

This economy function is also referred to as the heating circuit pump logic function or summer economy control.
An outside temperature limit can be set as the heating limit for each heating/cooling circuit.

The heating limit influences the start and stop behaviour of the circulation pump for the heating/cooling circuit:
- If the outside temperature is 1 K higher than the set value, the circulation pump for heating/cooling circuit 1 switches off.
- If the adjusted outside temperature is 1 K lower than the set value, the circulation pump for heating/cooling circuit 1 switches on.

Note
- *The heating circuit pump logic function cannot be deactivated.*
- *The hysteresis of -1 K/+1 K cannot be changed.*

1396.1 Heating limit, economy function, outside temperature, heating/cooling circuit 2

This economy function is also referred to as the heating circuit pump logic function or summer economy control.

An outside temperature limit can be set as the heating limit for each heating/cooling circuit.

Parameters for heating/cooling circuits (cont.)

The heating limit influences the start and stop behaviour of the circulation pump for the heating/cooling circuit:
- If the outside temperature is 1 K higher than the set value, the circulation pump for heating/cooling circuit 2 switches off.
- If the adjusted outside temperature is 1 K lower than the set value, the circulation pump for heating/cooling circuit 2 switches on.

Note
- *The heating circuit pump logic function cannot be deactivated.*
- *The hysteresis of -1 K/+1 K cannot be changed.*

1397.1 Heating limit, economy function, outside temperature, heating/cooling circuit 3

This economy function is also referred to as the heating circuit pump logic function or summer economy control.
An outside temperature limit can be set as the heating limit for each heating/cooling circuit.

The heating limit influences the start and stop behaviour of the circulation pump for the heating/cooling circuit:
- If the outside temperature is 1 K higher than the set value, the circulation pump for heating/cooling circuit 3 switches off.
- If the adjusted outside temperature is 1 K lower than the set value, the circulation pump for heating/cooling circuit 3 switches on.
  For determination of the adjusted outside temperature: See **919.0**.

Note
- *The heating circuit pump logic function cannot be deactivated.*
- *The hysteresis of -1 K/+1 K cannot be changed.*

1398.1 Heating limit, economy function, outside temperature, heating/cooling circuit 4

This economy function is also referred to as the heating circuit pump logic function or summer economy control.
An outside temperature limit can be set as the heating limit for each heating/cooling circuit.

The heating limit influences the start and stop behaviour of the circulation pump for the heating/cooling circuit:
- If the outside temperature is 1 K higher than the set value, the circulation pump for heating/cooling circuit 4 switches off.
- If the adjusted outside temperature is 1 K lower than the set value, the circulation pump for heating/cooling circuit 4 switches on.
  For determination of the adjusted outside temperature: See **919.0**.

Note
- *The heating circuit pump logic function cannot be deactivated.*
- *The hysteresis of -1 K/+1 K cannot be changed.*

2405.1 Set flow temperature, cooling, underfloor heating circuit, heating/cooling circuit 1

Fixed set flow temperature for cooling via heating/cooling circuit 1
Requirement: Heating/cooling circuit 1 is configured as an underfloor heating circuit.

- Upon demand via the set room temperature, cooling is performed with the flow temperature set here.
- The value cannot be set lower than **2409.0** or higher than **2409.1**.

Parameters for heating/cooling circuits (cont.)

2405.2 Set flow temperature, cooling with fan convector, heating/cooling circuit 1

Fixed set flow temperature for cooling via heating/cooling circuit 1
Requirement: Heating/cooling circuit 1 is configured as a fan convector.

- Upon demand via the set room temperature, cooling is performed with the flow temperature set here.
- The value cannot be set lower than **2409.0** or higher than **2409.1**.

2406.1 Set flow temperature, cooling, underfloor heating circuit, heating/cooling circuit 2

Fixed set flow temperature for cooling via heating/cooling circuit 2
Requirement: Heating/cooling circuit 2 is configured as an underfloor heating circuit.

- Upon demand via the set room temperature, cooling is performed with the flow temperature set here.
- The value cannot be set lower than **2410.0** or higher than **2410.1**.

2406.2 Set flow temperature, cooling with fan convector, heating/cooling circuit 2

Fixed set flow temperature for cooling via heating/cooling circuit 2
Requirement: Heating/cooling circuit 2 is configured as a fan convector.

- Upon demand via the set room temperature, cooling is performed with the flow temperature set here.
- The value cannot be set lower than **2410.0** or higher than **2410.1**.

2409.0 Min. limit of set flow temperature for cooling, heating/cooling circuit 1

Limiting of set flow temperature for cooling via heating/cooling circuit 1

The set flow temperature for cooling mode results from the following:
- Weather-compensated cooling mode: Constant set flow temperature, depending on the type of cooling circuit selected during commissioning, e.g. cooling via underfloor heating circuit, cooling via fan convector
- Room temperature-dependent cooling mode: From the differential between the set and the actual room temperature

If the setting results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.

2409.1 Max. limit of set flow temperature for cooling, heating/cooling circuit 1

Limiting of set flow temperature for cooling via heating/cooling circuit 1

The set flow temperature for cooling mode results from the following:
- Weather-compensated cooling mode: Constant set flow temperature, depending on the type of cooling circuit selected during commissioning, e.g. cooling via underfloor heating circuit, cooling via fan convector
- Room temperature-dependent cooling mode: From the differential between the set and the actual room temperature

If the setting results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

2410.0 Min. limit of set flow temperature for cooling, heating/cooling circuit 2

Limiting of set flow temperature for cooling via heating/cooling circuit 2

Parameters for heating/cooling circuits (cont.)

The set flow temperature for cooling mode results from the following:
- Weather-compensated cooling mode: Constant set flow temperature, depending on the type of cooling circuit selected during commissioning, e.g. cooling via underfloor heating circuit, cooling via fan convector
- Room temperature-dependent cooling mode: From the differential between the set and the actual room temperature

If the setting results in a lower set flow temperature than the value set here, the set flow temperature will be limited to this value.

2410.1 Max. limit of set flow temperature for cooling, heating/cooling circuit 2

Limiting of set flow temperature for cooling via heating/cooling circuit 2

The set flow temperature for cooling mode results from the following:
- Weather-compensated cooling mode: Constant set flow temperature, depending on the type of cooling circuit selected during commissioning, e.g. cooling via underfloor heating circuit, cooling via fan convector
- Room temperature-dependent cooling mode: From the differential between the set and the actual room temperature

If the setting results in a higher set flow temperature than the value set here, the set flow temperature will be limited to this value.

2413.0 Start condition, cooling, heating/cooling circuit 1

Start condition for operation of the heating circuit pump in heating/cooling circuit 1 for weather-compensated room cooling:

If the adjusted outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus the value set here, the circulation pump switches **on**.

2413.1 Stop condition, cooling, heating/cooling circuit 1

Stop condition for operation of the heating circuit pump in heating/cooling circuit 1 for weather-compensated room cooling:

If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2413.0** by the value set here, the circulation pump switches **off**.

2414.0 Start condition, cooling, heating/cooling circuit 2

Start condition for operation of the heating circuit pump in heating/cooling circuit 2 for weather-compensated room cooling:

If the adjusted outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus the value set here, the circulation pump switches **on**.

2414.1 Stop condition, cooling, heating/cooling circuit 2

Stop condition for operation of the heating circuit pump in heating/cooling circuit 2 for weather-compensated room cooling:

If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2414.0** by the value set here, the circulation pump switches **off**.

Parameters for heating/cooling circuits (cont.)

2426.0 Enable economy function, outside temperature, heating/cooling circuit 1

Energy saving function for the heating circuit pump of heating/cooling circuit 1 for weather-compensated central heating

Value	Meaning
0	Energy saving function off
1	Energy saving function on: ▪ If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2426.1**, the circulation pump switches **off**. ▪ If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2426.1 – 1 K**, the circulation pump switches back **on**.

2426.1 Hysteresis, economy function, outside temperature, heating/cooling circuit 1

Hysteresis for energy saving function of the heating circuit pump of heating/cooling circuit 1 for weather-compensated central heating:
Energy saving function is active if **2426.0** is set to **1**.

Conditions for starting and stopping the heating circuit pump:
- If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2426.1**, the circulation pump switches **off**.
- If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2426.1 – 1 K**, the circulation pump switches back **on**.

2427.0 Enable economy function, outside temperature, heating/cooling circuit 2

Energy saving function for the heating circuit pump of heating/cooling circuit 2 for weather-compensated central heating

Value	Meaning
0	Energy saving function off
1	Energy saving function on: ▪ If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2427.1**, the circulation pump switches **off**. ▪ If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2427.1 – 1 K**, the circulation pump switches back **on**.

2427.1 Hysteresis, economy function, outside temperature, heating/cooling circuit 2

Hysteresis for energy saving function of the heating circuit pump of heating/cooling circuit 2 for weather-compensated central heating:
Energy saving function is active if **2427.0** is set to **1**.

Conditions for starting and stopping the heating circuit pump:
- If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2427.1**, the circulation pump switches **off**.
- If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2427.1 – 1 K**, the circulation pump switches back **on**.

Parameters for heating/cooling circuits (cont.)

2428.0 Enable economy function, outside temperature, heating/cooling circuit 3

Energy saving function for the heating circuit pump of heating/cooling circuit 3 for weather-compensated central heating

Value	Meaning
0	Energy saving function off
1	Energy saving function on: ▪ If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2428.1**, the circulation pump switches **off**. ▪ If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2428.1 – 1 K**, the circulation pump switches back **on**.

2428.1 Hysteresis, economy function, outside temperature, heating/cooling circuit 3

Hysteresis for energy saving function of the heating circuit pump of heating/cooling circuit 3 for weather-compensated central heating:
Energy saving function is active if **2428.0** is set to **1**.

Conditions for starting and stopping the heating circuit pump:
- If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2428.1**, the circulation pump switches **off**.
- If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2428.1 – 1 K**, the circulation pump switches back **on**.

2429.0 Enable economy function, outside temperature, heating/cooling circuit 4

Energy saving function for the heating circuit pump of heating/cooling circuit 4 for weather-compensated central heating

Value	Meaning
0	Energy saving function off
1	Energy saving function on: ▪ If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2429.1**, the circulation pump switches **off**. ▪ If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2429.1 – 1 K**, the circulation pump switches back **on**.

2429.1 Hysteresis, economy function, outside temperature, heating/cooling circuit 4

Hysteresis for energy saving function of the heating circuit pump of heating/cooling circuit 4 for weather-compensated central heating:
Energy saving function is active if **2429.0** is set to **1**.

Conditions for starting and stopping the heating circuit pump:
- If the outside temperature **exceeds** the set room temperature selected at the HMI programming unit plus **2429.1**, the circulation pump switches **off**.
- If the outside temperature **falls below** the set room temperature selected at the HMI programming unit plus **2429.1 – 1 K**, the circulation pump switches back **on**.

Parameters for heating/cooling circuits (cont.)

2452.0 Start hysteresis, cooling, heating/cooling circuit 1

Only in conjunction with a room temperature sensor (extended cooling mode): Start hysteresis for room temperature-dependent cooling mode via heating/cooling circuit 1

If the room temperature exceeds the set room temperature by the set temperature differential, cooling is switched on.

2452.1 Stop hysteresis, cooling, heating/cooling circuit 1

Only in conjunction with a room temperature sensor (extended cooling mode): Stop hysteresis for room temperature-dependent cooling mode via heating/cooling circuit 1

If the room temperature falls below the set room temperature by the set temperature differential, cooling is switched off.

2453.0 Start hysteresis, cooling, heating/cooling circuit 2

Only in conjunction with a room temperature sensor (extended cooling mode): Start hysteresis for room temperature-dependent cooling mode via heating/cooling circuit 2

If the room temperature exceeds the set room temperature by the set temperature differential, cooling is switched on.

2453.1 Stop hysteresis, cooling, heating/cooling circuit 2

Only in conjunction with a room temperature sensor (extended cooling mode): Stop hysteresis for room temperature-dependent cooling mode via heating/cooling circuit 2

If the room temperature falls below the set room temperature by the set temperature differential, cooling is switched off.

2498.0 Pump type, secondary pump

Manufacturer of the secondary pump: Required in order to process operating data of the circulation pump in the heat pump control unit.

Note
Setting only required when replacing the circulation pump and for on-site circulation pumps

Value	Meaning
0	Control of circulation pump via pump relay
1	KSB Control of circulation pump via PWM signal
2	Grundfos Control of circulation pump via PWM signal
3	Wilo Control of circulation pump via PWM signal
4	Do not adjust!
5	Do not adjust!

2499.0 Pump type, heating/cooling circuit 1

Manufacturer of the circulation pump for heating/cooling circuit 1: Required for processing operating data from the circulation pump in the heat pump control unit.

Note
Setting only required when replacing the circulation pump and for on-site circulation pumps

Value	Meaning
0	Control of circulation pump via pump relay
1	KSB Control of circulation pump via PWM signal
2	Grundfos Control of circulation pump via PWM signal
3	Wilo Control of circulation pump via PWM signal
4	Circulation pump without PWM signal
5	Do not adjust!

Parameters for heating/cooling circuits (cont.)

2500.0 Pump type, heating/cooling circuit 2

Manufacturer of the circulation pump for heating/cooling circuit 2: Required for processing operating data from the circulation pump in the heat pump control unit.

Note
Setting only required when replacing the circulation pump and for on-site circulation pumps

Value	Meaning
0	Control of circulation pump via pump relay
1	KSB Control of circulation pump via PWM signal
2	Grundfos Control of circulation pump via PWM signal
3	Wilo Control of circulation pump via PWM signal
4	Circulation pump without PWM signal
5	Do not adjust!

2501.0 Pump type, heating/cooling circuit 3

Manufacturer of the circulation pump for heating/cooling circuit 3: Required for processing operating data from the circulation pump in the heat pump control unit.

Note
Setting only required when replacing the circulation pump and for on-site circulation pumps

Value	Meaning
0	Control of circulation pump via pump relay
1	KSB Control of circulation pump via PWM signal
2	Grundfos Control of circulation pump via PWM signal
3	Wilo Control of circulation pump via PWM signal
4	Circulation pump without PWM signal
5	Do not adjust!

2502.0 Pump type, heating/cooling circuit 4

Manufacturer of the circulation pump for heating/cooling circuit 4: Required for processing operating data from the circulation pump in the heat pump control unit.

Note
Setting only required when replacing the circulation pump and for on-site circulation pumps

Value	Meaning
0	Control of circulation pump via pump relay
1	KSB Control of circulation pump via PWM signal
2	Grundfos Control of circulation pump via PWM signal
3	Wilo Control of circulation pump via PWM signal
4	Circulation pump without PWM signal
5	Do not adjust!

Parameters for DHW heating

497.0 Operation of DHW circulation pump

Value	Meaning
0	The DHW circulation pump runs continuously **within** the time program during the set time phases.
1	The DHW circulation pump runs continuously **irrespective** of the set time program. ***Note*** *Continuous operation of the DHW circulation pump uses more energy.*
2	Runtimes and pause times, each of 5 minutes duration, alternate **within** the set time program.
3	The DHW circulation pump is switched on via an external button for a set duration.
4	The DHW circulation pump operates with the cycles set in **497.3**, **within** the set time program.

Note
*The respective operating status of the DHW circulation pump depends on the setting of parameters **497.0** to **497.3** and on the respective operating status of the system.*

Example:
- Parameter **497.0** set to **0**.
- Parameter **497.2** set to **0**.
- A time phase is active in the time program for the DHW circulation pump.
- Cylinder heating is active.

The DHW circulation pump is operating in accordance with setting **497.0**. However, since the cylinder is currently being heated, the DHW circulation pump is switched off.

497.1 DHW circulation pump for increased DHW hygiene

Operation of the DHW circulation pump while the function for increased DHW hygiene is active.

Value	Meaning
0	The DHW circulation pump runs in accordance with the set time program, irrespective of the increased DHW hygiene function.
1	The DHW circulation pump is switched on every time the increased DHW hygiene function is activated, **irrespective** of the time program for the DHW circulation pump. With this setting, the pipework can also be integrated into the increased DHW hygiene function.

Note
*The respective operating status of the DHW circulation pump depends on the setting of parameters **497.0** to **497.3** and on the respective operating status of the system.*

⚠ **Danger**
There is a risk of scalding at DHW temperatures **above 60 °C**.
- Limit the temperature in the DHW flow to 60 °C by means of a mixer assembly, e.g. an automatic thermostatic mixing valve (DHW cylinder accessory).
- Switch on scald protection: Via HMI programming unit or parameter **503.0**

497.2 DHW circulation pump for DHW heating

The DHW circulation pump is operated during cylinder heating.

Value	Meaning
0	The DHW circulation pump is switched off during cylinder heating.
1	The DHW circulation pump runs in accordance with the setting in **497.0**, including during cylinder heating.

Note
*The respective operating status of the DHW circulation pump depends on the setting of parameters **497.0** to **497.3** and on the respective operating status of the system.*

Parameters for DHW heating (cont.)

Example:
- Parameter **497.0** set to **0**.
- Parameter **497.2** set to **0**.
- A time phase is active in the time program for the DHW circulation pump.
- Cylinder heating is active.

The DHW circulation pump is operating in accordance with setting **497.0**. However, since the cylinder is currently being heated, the DHW circulation pump is switched off.

497.3 Number of cycles DHW circulation pump

If **497.0** is set to **4**, the DHW circulation pump runs **within the time program** at the set number of cycles per hour.
1 cycle lasts 5 min.
The run cycles occur at equal intervals over the 1 hour period.

Example:
Setting **497.3**:
4 corresponds to 5 cycles per hour
Overall runtime of DHW circulation pump per hour:
5 x 5 min = 25 min

Value	Meaning
0	1 cycle per h
1	2 cycles per h
2	3 cycles per h
3	4 cycles per h
4	5 cycles per h
5	6 cycles per h

503.0 Scald protection

Scald protection limits the cylinder temperature to max. 60 °C.

Value	Meaning
0	Scald protection off: DHW cylinder can be heated to the max. cylinder temperature.
1	Scald protection on: DHW heating stops when cylinder temperature reaches 60 °C.

⚠ **Danger**
With scald protection switched off, a set DHW temperature higher than 60 °C can be selected. Consequently there is an increased risk of scalding!
Where possible, do **not** switch off scald protection.

504.1 Min. set cylinder temperature

Min. selectable set cylinder temperature:

Do not set this value higher than **504.3**.

504.3 Max. set cylinder temperature

Max. selectable set cylinder temperature:
Do not set this value lower than **504.1**.

Note
874.0 cannot be set higher than this value.

⚠ **Danger**
There is a risk of scalding at DHW temperatures **above 60 °C**.
- Limit the temperature in the DHW flow to 60 °C by means of a mixer assembly, e.g. an automatic thermostatic mixing valve (DHW cylinder accessory).
- Switch on scald protection: Via HMI programming unit or parameter **503.0**

874.0 Set cylinder temperature for increased DHW hygiene function

At specified intervals, the hygiene function heats the cylinder temperature to this set temperature for a period of 1 h.

The interval (daily or weekly) can be set at the HMI programming unit.

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Parameters for DHW heating (cont.)

Note
*This value cannot be set higher than the temperature set for parameter **504.3**.*

Danger
There is a risk of scalding at DHW temperatures **above 60 °C**.
If possible switch on scald protection at the HMI programming unit.

1085.0 Start hysteresis, set cylinder temperature

The set value specifies at what temperature below the current set cylinder temperature DHW heating will start.

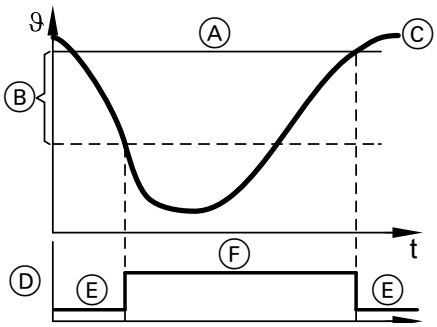

Fig. 3

Ⓒ Cylinder temperature
Ⓓ DHW heating demand
Ⓔ DHW heating OFF
Ⓕ DHW heating ON

Ⓐ Set cylinder temperature plus **1085.1**
Ⓑ **1085.0**

1085.1 Stop hysteresis, set cylinder temperature

DHW heating ends if the set cylinder temperature selected at the HMI programming unit is exceeded by the value set here.

1087.0 Max. duration, DHW heating

DHW heating stops after expiry of the set duration, irrespective of whether the set cylinder temperature plus **1085.1** has been reached.

Note
*The next DHW heating period starts after expiry of duration **1087.1** at the earliest.*

1087.1 Min. delay until next time DHW is heated

The next DHW heating period starts at the earliest after expiry of the delay set here.

This delay time starts at the end of every DHW heating period, irrespective of whether the set cylinder temperature plus **1085.1** has been reached. See **1087.0**.

1101.2 Set speed, secondary pump for DHW heating

Set speed of the secondary pump integrated into the indoor unit, for DHW heating

Parameters for low-noise mode

2540.0. Low-noise mode

Value	Meaning
0	Low-noise mode is switched **off**. The time program for low-noise mode is not available on the HMI programming unit.
1	Low-noise mode can be set via the time program on the HMI programming unit.
2	Low-noise mode is always switched **on**. The time program for low-noise mode is not available on the HMI programming unit. A relevant message is shown in the HMI programming unit display.

Parameters for electric booster heater

2340.0 Enable instantaneous heating water heater, central heating

If the heat pump cannot cover the heat demand, the instantaneous heating water heater is automatically activated for the following functions:
- Frost protection
- Increased DHW hygiene
- Defrost
- Emergency mode
- Screed drying

In addition, the instantaneous heating water heater can be enabled for central heating.

Value	Meaning
0	Instantaneous heating water heater is blocked for central heating.
1	Instantaneous heating water heater is enabled for central heating. The instantaneous heating water heater is switched on in addition to the heat pump if **all** of the following conditions apply: ▪ The heat demand exceeds the currently available output of the heat pump. The output differential is used as the output specification for the instantaneous heating water heater. ▪ The flow rate in the secondary circuit is sufficient for operation of the instantaneous heating water heater: See the following information.

Required flow rates for the output stages of the instantaneous heating water heater:
- Stage 1: 250 l/h
- Stage 2: 425 l/h
- Stage 2: 600 l/h

Note
If the flow rate in the secondary circuit is lower than the stated values, the instantaneous heating water heater is activated at a lower stage than that required on the basis of the output demand.

2340.1 Enable instantaneous heating water heater, DHW heating

If the heat pump cannot cover the heat demand, the instantaneous heating water heater is automatically activated for the following functions:
- Frost protection
- Increased DHW hygiene
- Defrost
- Emergency mode
- Screed drying

Parameters for electric booster heater (cont.)

In addition, the instantaneous heating water heater can be enabled for DHW heating.

Value	Meaning
0	Instantaneous heating water heater is blocked for DHW heating.
1	Instantaneous heating water heater is enabled for DHW heating.

2544.0 Enable instantaneous heating water heater, power-OFF

The instantaneous heating water heater can be enabled for operation during power-OFF.

Value	Meaning
0	Operation of instantaneous heating water heater during power-OFF is not enabled
1	Operation of instantaneous heating water heater during power-OFF is enabled

2545.0 Enable instantaneous heating water heater, power-OFF via Smart Grid

The instantaneous heating water heater can be enabled for operation during power-OFF via the Smart Grid function.

Value	Meaning
0	Operation of the instantaneous heating water heater during power-OFF via the Smart Grid is not enabled
1	Operation of the instantaneous heating water heater during power-OFF via the Smart Grid is enabled

Parameters for external heat generator

2404.0 Dual mode operation, external heat generator

This parameter specifies whether the external heat generator may be switched on simultaneously with or as an alternative to the heat pump.

Value	Meaning
0	Do not adjust!
1	Mono mode operation: Heat is generated with the heat pump only. The external heat generator is **not** activated.
2	Dual mode parallel operation: If the adjusted outside temperature (long term average) falls below the dual mode temperature **2404.1** for an extended period, the external heat generator can be started in line with demand. The heat pump remains in operation.
3	Dual mode alternative operation: If the adjusted outside temperature (long term average) falls below the alternative operation temperature limit **2404.2** for an extended period, the external heat generator can be started in line with demand. As soon as the external heat generator starts, the heat pump switches off.

Note

In most cases, dual mode parallel operation is more efficient than dual mode alternative operation. Depending on the type of heat pump, it may be cheaper to select dual mode alternative operation when outside temperatures are consistently low.

Parameters for external heat generator (cont.)

2404.1 Dual mode temperature

If the adjusted outside temperature (long term average) falls below the value set here for an extended period, the external heat generator can be started in line with demand.

Requirements:
- The heat pump and/or other heat sources cannot meet the current heat demand on their own.
- Dual mode parallel operation is selected: **2404.0** set to **2**.

Above the dual mode temperature, the external heat generator only starts under the following conditions:
- The heat pump fails to start due to a fault.
  Or
- There is a special heat demand, e.g. frost protection.

2404.2 Temperature limit, alternative operation

If the adjusted outside temperature (long-term average) falls below this temperature limit, central heating and DHW heating are carried out by the external heat generator alone, even with dual mode parallel operation.

Note
*Set this value lower than **2404.1**.*

2404.3 Control strategy

The control strategy indicates the criteria under which the heat pump and/or the external heat generator are switched on for central heating and DHW heating.

Value	Meaning
0	Hybrid operation is switched off.
1	Operation with **fixed** temperature limits as per Fig. 4: ▪ Temperature limit for alternative operation: See **2404.1**. ▪ Dual mode point: See **2404.2**
2	Economical operating mode: The following factors are taken into account when calculating the start points for the heat pump and/or external heat generator: ▪ Heat pump COP ▪ Energy prices for electricity and fossil fuels ***Note*** *The energy prices are set in the ViCare app. The control strategy cannot be used without the energy prices.*
3	Ecological operating mode: The following factors are taken into account when calculating the start points for the heat pump and/or external heat generator: ▪ Heat pump COP ▪ Primary energy factors for electricity and fossil fuels ***Note*** *The primary energy factors are preset. The primary energy factors can be adjusted in the ViCare app.*

Note
In case of high heat demand, the heat sources can also be switched on outside the respective operating range, e.g. for frost protection of a system component or to defrost the evaporator.

Operation with fixed temperature limits: Dual mode parallel operation

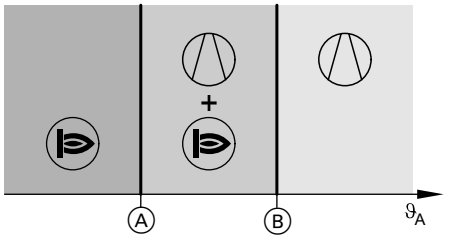

Fig. 4

ϑ_A Outside temperature
Ⓐ Temperature limit, alternative operation **2404.2**
Ⓑ Dual mode temperature **2404.1**
The heat pump is switched on for room heating/ room cooling and DHW heating as required.
The external heat generator is switched on for central heating and DHW heating as required.

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Parameters for external heat generator (cont.)

2626.0 Max. output, electric booster heater

Set the maximum heating output of the instantaneous heating water heater in kW, e.g. **3** for 3 kW.

2796.0 Enable external heat generator, central heating

The external heat generator can be enabled for heating mode.
If the heat pump cannot cover the heat demand from the heating circuits, the external heat generator is started. If the boiler water temperature is sufficiently high, the boiler water will be supplied to the heating circuits via the mixer for external heat generators (downstream of the buffer cylinder). This mixer regulates to the set flow temperature of the system.

Other conditions for central heating with an external heat generator:
- The dual mode temperature is not reached.
  Or
- There is a special heat demand, e.g. frost protection of a system component.

Value	Meaning
0	External heat generator is blocked for central heating.
1	External heat generator is enabled for central heating.

2796.1 Enable external heat generator, DHW heating

The external heat generator can be enabled for DHW heating.
If the heat pump cannot cover the heat demand from the DHW cylinder, the circulation pump for DHW reheating and the external heat generator will be activated.

Value	Meaning
0	External heat generator is blocked for DHW heating.
1	External heat generator is enabled for DHW heating.

2796.2 Enable external heat generator, DHW heating emergency mode

The external heat generator can be enabled for DHW heating emergency mode. In emergency mode, the outdoor unit is switched off.

Value	Meaning
0	External heat generator is blocked for DHW heating in emergency mode.
1	External heat generator is enabled for DHW heating in emergency mode.

2796.3 Enable external heat generator, central heating emergency mode

The external heat generator can be enabled for central heating emergency mode. In emergency mode, the outdoor unit is switched off.

Value	Meaning
0	External heat generator is blocked for central heating in emergency mode.
1	External heat generator is enabled for central heating in emergency mode.

Parameters for external heat generator (cont.)

2796.4 Enable external heat generator, screed drying

The external heat generator can be enabled for screed drying:
- If the heat pump has not yet been commissioned.
- For back-up if the indoor unit is being operated without the outdoor unit.

Value	Meaning
0	External heat generator is blocked for screed drying.
1	External heat generator is enabled for screed drying.

2796.5 Enable external heat generator, defrosting

The external heat generator can be enabled for defrosting.
If the heat pump cannot cover the heat demand for defrosting, the external heat generator is started.

Value	Meaning
0	External heat generator is blocked for defrosting.
1	External heat generator is enabled for defrosting.

2796.6 Enable external heat generator for increased DHW hygiene function

The external heat generator can be enabled for the increased DHW hygiene function:
- If the heat pump has not yet been commissioned.
- For back-up if the heat generated by the heat pump is not sufficient.

Value	Meaning
0	External heat generator is blocked for the increased DHW hygiene function.
1	External heat generator is enabled for the increased DHW hygiene function.

2796.7 Enable external heat generator, frost protection

The external heat generator can be enabled for frost protection.
If the heat pump cannot cover the heat demand necessary to ensure that the system is protected from frost, the external heat generator is started.

Value	Meaning
0	External heat generator is blocked for frost protection.
1	External heat generator is enabled for frost protection.

2796.8 Configuration, external heat generator

Do not adjust!

2853.0 Start threshold, external heat generator

To prevent the external heat generator starting immediately if the set flow temperature in the secondary circuit is not reached for a short time, the control unit uses the output integral as start criteria. This output integral is the integral from duration and extent of the deviation of the set flow temperature to the actual value. In Fig. 5, the output integral is the grey area between the time line of the actual value and the hysteresis of the flow temperature secondary circuit.

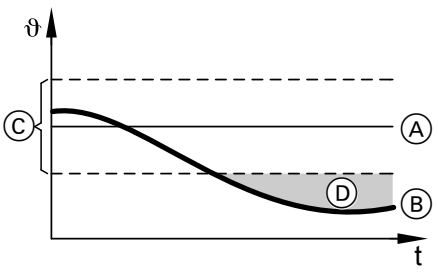

Fig. 5

Ⓐ Secondary circuit set flow temperature
Ⓑ Secondary circuit flow temperature actual value
Ⓒ Hysteresis, flow temperature secondary circuit
Ⓓ Output integral

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Parameters for external heat generator (cont.)

2940.0 Start delay, external heat generator

The external heat generator does not start within the specified period following a change of the set flow temperature in the secondary circuit. This may occur for example during a change in operating status in the time program for central heating or following a changeover between central heating and DHW heating.

2940.1 Min. runtime, external heat generator

Following a demand, the heat pump control unit will not switch off the external heat generator within this time.

2940.2 Stop delay, external heat generator

When the demand for the external heat generator is no longer present, the external heat generator initially remains on. The external heat generator is switched off once the system flow temperature has reached the set value for the duration set here.

Parameters for Smart Grid

2543.0 Smart Grid room temperature set value increase, heating

If the function for increasing set temperatures is active via Smart Grid, the current set room temperature is raised by this value. The current set room temperature depends on the active operating status in the central heating time program.

Requirement: Central heating is switched on.

2543.1 Smart Grid room temperature set value increase, cooling

If the function for increasing set temperatures is active via Smart Grid, the current set room temperature is raised by this value. The current set room temperature depends on the active operating status in the room cooling time program.

Requirement: Room cooling is switched on.

2543.2 Smart Grid set value increase for DHW heating

If the function for increasing set temperatures is active via Smart Grid, the set DHW temperature is raised by this value.

2543.3 Smart Grid set value increase for heating water buffer cylinder

If the function for increasing set temperatures is active via Smart Grid, the current set temperature for the buffer cylinder is raised by this value.

Parameters for Smart Grid (cont.)

2560.0 Power-OFF/Smart Grid selection

The power supply utility can block or specifically issue a demand for the compressor via Smart Grid. This requires 2 floating contacts of the power supply utility to be connected to the digital inputs of the heat pump.

Value	Meaning
0	Only power-OFF
1	Smart Grid including power-OFF

Fault messages

Note
The possible faults vary according to the system equipment. Therefore, not all fault messages will come up for every system.

Please note
Refrigerant can escape when working on the refrigerant circuit.
- It is essential that regulations and guidelines on handling refrigerant are always observed and adhered to: See "Safety information".
- Work on the refrigerant circuit must **only** be carried out by a certified contractor (in accordance with Regulations (EU) No 517/2014 and 2015/2067).
- Specialist personnel working on a refrigerant circuit with flammable refrigerant are required to have specific qualifications and certification: See "Safety information".

Please note
Repairing components that fulfil a safety function can compromise the safe operation of the system.
- Do not undertake any repairs on the inverter. Replace the inverter if there is a defect.
- Replace faulty components only with genuine Viessmann spare parts.

Message code	System characteristics	Cause	Measures
F.1	The heat pump is switched off.	Lead break, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.2	The heat pump is switched off.	Short circuit, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.3	▪ No defrost ▪ No room cooling	Lead break, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.4	▪ No defrost ▪ No room cooling	Short circuit, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.7	▪ Only room heating ▪ No DHW heating	Lead break, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.8	▪ Only room heating ▪ No DHW heating	Short circuit, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
F.13	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Lead break, outside temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. ▪ Floorstanding indoor unit: Connection at luster terminals for sensors, terminal 5 and 6
F.14	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Short circuit, outside temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. ▪ Floorstanding indoor unit: Connection at luster terminals for sensors, terminal 5 and 6
F.23	Charging of cylinder loading system not possible	Lead break, centre buffer temperature sensor	Check resistance value (NTC 10 kΩ) at connection. Replace sensor if necessary.
F.24	Charging of cylinder loading system not possible	Short circuit, centre buffer temperature sensor	Check resistance value (NTC 10 kΩ) at connection. Replace sensor if necessary.
F.33	Refrigerant circuit off	Lead break, air inlet temperature sensor OAT	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the refrigerant circuit controller. Replace sensor if necessary.
F.34	Refrigerant circuit off	Short circuit, air inlet temperature sensor OAT	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the refrigerant circuit controller. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.74	The heat pump is switched off.	Hydraulic system pressure too low	Top up with water. Vent the system. If the fault occurs repeatedly: ▪ Check system pressure sensor with external pressure gauge. ▪ Check the pre-charge pressure of the expansion vessel. ▪ Check settings for set system pressure and range.
F.75	The heat pump is switched off.	No flow in the secondary circuit, or flow sensor faulty	▪ Check secondary pump//heating circuit pump, heating/cooling circuit 1. Replace secondary pump//heating circuit pump, heating/cooling circuit 1 if required. ▪ Check flow sensor. Replace flow sensor if required.
F.78	HMI programming unit is dark. No communication between HMI programming unit and HPMU electronics module	No communication with programming unit	▪ Check the power supply. Restore if necessary. ▪ Check connection to HMI electronics module. ▪ Suppress electromagnetic interference on bus connections. ▪ Replace HMI programming unit.
F.87	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Reduce the system pressure.
F.91	Function of connected components in emergency mode	DIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections to DIO electronics module and connection to HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace DIO electronics module.
F.92	Function of connected components in emergency mode	ADIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on ADIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace ADIO electronics module.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.94	Function of the relevant electronics module in emergency mode	SDIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on SDIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace SDIO electronics module.
F.100	Function of the electronics modules connected to PlusBus not available	PlusBus voltage error	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Wall mounted indoor unit: Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.101	Function of the electronics modules connected to PlusBus not available	Short circuit, PlusBus	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Wall mounted indoor unit: Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.102	No WiFi	Communication error, WiFi communication module	Replace the WiFi communication module.
F.104	Depending on configuration of EM-EA1 extension (DIO electronics module)	External fault message input active	▪ Check the settings in the commissioning assistant for fault message input. Adjust settings if required. ▪ Check connected external appliance.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.111	Refrigerant circuit off	Lead break, evaporator refrigerant inlet temperature sensor OCT	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the refrigerant circuit controller. Replace sensor if necessary.
F.112	Refrigerant circuit off	Short circuit, evaporator refrigerant inlet temperature sensor OCT	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the refrigerant circuit controller. Replace sensor if necessary.
F.123	Refrigerant circuit off	Lead break, liquid gas temperature sensor IRT	Check resistance value (NTC 10 kΩ) at connection X2.3/X2.4 of the EHCU electronics module. Replace sensor if necessary.
F.124	Refrigerant circuit off	Short circuit, liquid gas temperature sensor IRT	Check resistance value (NTC 10 kΩ) at connection X2.3/X2.4 of the EHCU electronics module. Replace sensor if necessary.
F.151	Refrigerant circuit off	Lead break, hot gas temperature sensor CTT	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the refrigerant circuit controller. Replace sensor if necessary.
F.152	Refrigerant circuit off	Short circuit, hot gas temperature sensor CTT	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the refrigerant circuit controller. Replace sensor if necessary.
F.160	Communication error, electronics module	Affected electronics module incorrectly connected	▪ Check the CAN bus cable. ▪ Check the CAN bus subscriber numbers. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cables. Replace the electronics modules if required.
F.425	Values in energy cockpit incorrect	Time synchronisation not possible	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.
F.430	Operation with internal set value specifications of the heat pump control unit	Communication error, gateway	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to the gateway.
F.431	Operation with internal set value specifications of the heat pump control unit	KNX/TP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to KNX/TP gateway.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.454	The refrigerant circuit is locked.	Incorrect version of operating software for the electronics modules	▪ Check version of operating software for HPMU and EHCU electronics modules and for refrigerant circuit controller. ▪ Install correct software version if required.
F.472	No communication with energy meter	Communication error, energy meter	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check the connections to the HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.518	Cannot use wireless remote control	Communication error, wireless remote control	▪ Range to receiver exceeded ▪ Check power supply of transmitter. ▪ Notify contractor.
F.519	Operation with internal set value specifications of the heat pump control unit	BACnet/IP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to BACnet/IP gateway.
F.542	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 1 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.543	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 1 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.544	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 2 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.545	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 2 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.546	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 3 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.547	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 3 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.548	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 4 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.549	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 4 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.575	Normal operation without room temperature influence	Lead break, room temperature sensor, heating/cooling circuit 1	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.576	Normal operation without room temperature influence	Short circuit, room temperature sensor, heating/cooling circuit 1	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.578	Normal operation without room temperature influence	Lead break, room temperature sensor, heating/cooling circuit 2	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.579	Normal operation without room temperature influence	Short circuit, room temperature sensor, heating/cooling circuit 2	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor on remote control.
F.581	Normal operation without room temperature influence	Lead break, room temperature sensor, heating/cooling circuit 3	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.582	Normal operation without room temperature influence	Short circuit, room temperature sensor, heating/cooling circuit 3	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.584	Normal operation without room temperature influence	Lead break, room temperature sensor, heating/cooling circuit 4	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.
F.585	Normal operation without room temperature influence	Short circuit, room temperature sensor, heating/cooling circuit 4	▪ Check external room temperature sensor in heating/cooling circuit. ▪ Check room temperature sensor at the remote control.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.685	▪ Function of connected components in emergency mode ▪ Frost protection enabled ▪ Passive frost protection on EHCU electronics module	HPMU electronics module communication error	▪ Check connections on HPMU electronics module and on faulty control unit. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.686	The refrigerant circuit will not start.	Refrigerant circuit controller communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on refrigerant circuit controller. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If fault persists, replace refrigerant circuit controller.
F.687	▪ The heat pump is switched off. ▪ No function of connected components	EHCU electronics module communication error	▪ Check connections on HPMU electronics module and on faulty control unit. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the EHCU electronics module.
F.770	Refrigerant circuit off	Lead break, flow temperature sensor, secondary circuit downstream of condenser or heating/cooling circuit 1 downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X2.1/X2.2 of the EHCU electronics module. Replace sensor if necessary.
F.771	Refrigerant circuit off	Short circuit, flow temperature sensor, secondary circuit downstream of condenser or heating/cooling circuit 1 downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X2.1/X2.2 of the EHCU electronics module. Replace sensor if necessary.
F.788	▪ No room heating/cooling ▪ No DHW heating	Fault, control and/or power supply of 4/3-way valve	▪ Check connections on motor of 4/3-way valve. ▪ Check motor of 4/3-way valve. ▪ Replace motor if necessary.
F.790	▪ No room heating/cooling ▪ No DHW heating	▪ Motor of 4/3-way valve not correctly mounted ▪ 4/3-way valve faulty	▪ Check mounting of motor: See separate installation instructions. ▪ Check hydraulic and electrical connections of 4/3-way valve. ▪ Check motor of 4/3-way valve. ▪ Replace motor and/or 4/3-way valve if required.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.791	Reduced output, instantaneous heating water heater	Phase L1 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.792	Reduced output, instantaneous heating water heater	Phase L2 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.793	Reduced output, instantaneous heating water heater	Phase L3 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.797	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
F.798	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.
F.799	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
F.800	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.
F.801	Fault, outdoor unit, no refrigerant circuit reversal	4-way diverter valve faulty	▪ Check connections on refrigerant circuit controller. ▪ Check 4-way diverter valve (function check). Replace coil if required. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the 4-way diverter valve.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.807	The refrigerant circuit will not start.	Fan not running.	▪ Check connections on refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check fan with actuator test. ▪ Isolate the system from the power supply. Restart the system. If fault persists, replace fan.
F.808	The refrigerant circuit will not start.	Fan not running.	▪ Check connections on refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check fan with actuator test. ▪ Isolate the system from the power supply. Restart the system. If fault persists, replace fan.
F.830	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.831	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.837	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on compressor faulty	▪ Check the electrical connection between inverter and compressor. ▪ If the fault persists, replace the inverter.
F.843	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Overvoltage shutdown, inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.862	Heat pump output demand not possible, compressor not available	Internal fault, inverter	Replace inverter.
F.864	▪ No defrost ▪ Compressor cannot be switched on.	Outdoor unit defrost attempt unsuccessful	Check outdoor unit for icing up. De-ice if necessary.
F.875	Communication between lag appliance and lead appliance interrupted	Communication error with lead appliance	Check for short circuit or interchanged CAN bus connections.
F.876	The heat pump is switched off.	Lead break, flow sensor	Check flow sensor. Replace flow sensor if required.
F.877	Refrigerant circuit off	Short circuit, evaporator temperature sensor OMT	Check resistance value (NTC 10 kΩ) at connection of refrigerant circuit controller. Replace sensor if necessary.
F.878	Refrigerant circuit off	Lead break, evaporator temperature sensor OMT	Check resistance value (NTC 10 kΩ) at connection of refrigerant circuit controller. Replace sensor if necessary.
F.881	The refrigerant circuit will not start.	Refrigerant circuit safety shutdown	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.906	Heat pump not available	Output discrepancies between outdoor and indoor unit	Check outputs of indoor unit and outdoor unit. Replace units if necessary.
F.914	Heat pump does not start.	Inverter temperature too high	Check temperatures of air supply for inverter cooling.
F.915	Heat pump does not start.	Short circuit, temperature sensor, inverter cooling HST	Replace temperature sensor, inverter cooling HST or refrigerant circuit controller.
F.916	Heat pump does not start.	Lead break, temperature sensor, inverter cooling HST	Replace temperature sensor, inverter cooling HST or refrigerant circuit controller.
F.982	Heat pump does not start.	Heating circuit pump running dry	▪ Check shut-off valve. ▪ Check heating circuit pump connection. ▪ Fill system.
F.990	Secondary circuit not controlled	Short circuit, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.991	Secondary circuit not controlled	Lead break, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.992	No heating/cooling of external heating water/coolant buffer cylinder	Short circuit, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.993	No heating of external heating water/coolant buffer cylinder	Lead break, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.994	No heating of external heating water buffer cylinder	Short circuit, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.995	No heating of external heating water buffer cylinder	Lead break, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.
F.996	No cooling of external coolant buffer cylinder	Short circuit, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.997	No cooling of external coolant buffer cylinder	Lead break, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.998	The refrigerant circuit will not start.	Flow rate signal faulty	▪ Check flow sensor. Replace if required. ▪ Check CAN bus connections: – CAN bus cable, indoor/outdoor unit – Check connection X19 on EHCU electronics module. – Check connections X4 on HPMU electronics module. – Check connection X5 on EHCU electronics module. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cable. Replace EHCU electronics module if required. Replace HPMU electronics module if required. If fault occurs repeatedly, replace refrigerant circuit controller, internal CAN bus and EHCU electronics module.
F.999	Operation of connected electronics modules not possible.	HIO electronics module communication error	▪ Check settings in the commissioning assistant. ▪ Check plug for secure seating and corrosion. ▪ Check that appliance connections are correct. ▪ Check power supply of HIO electronics module. ▪ After a system power reset, check whether the fault re-occurs. ▪ If the fault re-occurs, replace affected control unit.

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Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.1008	Most recently connected control unit not recognised.	Number of connected lag appliances has been exceeded.	In the system configuration, check the number of connected control units.
F.1010	Refrigerant circuit off	Fault, pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X11 of the EHCU electronics module (0 to 5 V). Replace sensor if necessary.
F.1013	Heat pump off	DIP switch on refrigerant circuit controller is not set correctly	Set DIP switch correctly.
F.1014	Heating water stays cold. Outdoor unit not recognised.	DIP switch on refrigerant circuit controller is not set correctly	Set DIP switch correctly.
F.1015	Heat pump does not start.	DIP switch on refrigerant circuit controller is not set correctly	Set DIP switch correctly.
F.1016	Outdoor unit off	Return temperature sensor not recognised.	Check return temperature sensor. Replace if necessary or replace EHCU electronics module.
F.1017	Outdoor unit off	Flow temperature sensor, secondary circuit or heating/cooling circuit 1 not recognised.	Check flow temperature sensor, secondary circuit or heating/cooling circuit 1. Replace if necessary or replace EHCU electronics module.
F.1018	Outdoor unit off	High pressure sensor ICT not recognised.	Check high pressure sensor ICT. Replace if necessary or replace EHCU electronics module.
F.1019	Outdoor unit off	Liquid gas temperature sensor IRT not recognised.	Check liquid gas temperature sensor IRT. Replace if necessary or replace EHCU electronics module.
F.1022	Electricity meter registers a fault, no functional support.	Electricity meter registers a fault.	Check fault memory on electricity meter.
F.1034	Communication error between the control units connected via external CAN bus	Communication fault, external CAN bus	Check for short circuit on external CAN bus or for interchanged connections (CAN-H and CAN-L) on plug 91 (X8).
F.1035	Communication error between the control units connected via internal CAN bus	Communication fault, internal CAN bus	Check for short circuit on internal CAN bus or for interchanged connections (CAN-H and CAN-L) on plugs X4, X5.
F.1045	External heat generator not ready for operation	Fault on external heat generator	Check fault message on control unit of external heat generator. Remedy the fault. Installation and service instructions for external heat generator and associated control unit
F.1050	Uncontrolled operation of the external heat generator	Short circuit, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.

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Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.1051	Uncontrolled operation of the external heat generator	Lead break, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.
F.1054	External heat generator not ready for operation	Max. temperature of external heat generator exceeded	Check the cause of exceeding the max. temperature at the external heat generator. Remedy any fault. Installation and service instructions for external heat generator and associated control unit
F.1057	Refrigerant circuit off	Fault, high pressure sensor	▪ Check power supply (5 V) at connection X20.1/X20.3 of the EHCU electronics module. ▪ Check signal (0 to 5 V) at connection X20.2 of the EHCU electronics module. Replace sensor if necessary.
F.1062	Heat pump not operational	Inverter voltage too low	Check and ensure inverter power supply. Restart outdoor unit.
F.1063	Heat pump not operational	Inverter voltage too high	Check and ensure inverter power supply. Restart outdoor unit.
F.1064	Heat pump not operational	Overcurrent at inverter	Restart outdoor unit.
F.1065	Heat pump not operational	Power supply too low	Check and ensure power supply. Restart outdoor unit.
F.1066	Heat pump not operational	Power supply too high	Check and ensure power supply. Restart outdoor unit.
F.1067	Heat pump not operational	Power supply frequency too high	Check and ensure power supply. Restart outdoor unit.
F.1069	Heat pump off	Condenser overheating	▪ Check supply flow rate. ▪ Clean condenser in outdoor unit. Replace if required.
F.1078	Refrigerant circuit off	Flow rate repeatedly too low	▪ Perform one-off DHW heating. ▪ Deactivate cooling mode. ▪ Increase secondary temperature via external heat generator.
F.1079	Refrigerant circuit off	Defrosting fault due to low flow rate	▪ Check flow rate in hydraulic circuit. ▪ Check actuation of heating circuit pump with actuator test. ▪ Check system flow rate. ▪ Check shut-off valves.
F.1080	Refrigerant circuit off	Evaporation temperature in cooling circuit too low	▪ Check flow rate. ▪ Check refrigerant lines for leaks. ▪ Check cooling circuit for possible blockages.
F.1081	Refrigerant circuit off	Flow temperature of secondary circuit or heating/cooling circuit 1 too low	▪ Check flow rate. ▪ Check refrigerant lines for leaks. ▪ Check cooling circuit for possible blockages.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.1082	Refrigerant circuit off	Condensation temperature in defrosting process too low	▪ Check whether compressor of outdoor unit is free of ice. ▪ Check refrigerant charge. Top up if required. ▪ Check refrigerant circuit reversal valve. Replace if required.
F.1083	Refrigerant circuit off	Evaporation temperature in cooling mode too high	Check whether one-off DHW heating is working. Check diverter valve function with actuator test. Replace if required.
F.1085	DHW cylinder system does not supply any water. No DHW circulation	Mechanical fault in cylinder loading pump	▪ Perform a power reset. ▪ If fault occurs repeatedly, replace cylinder loading pump.
F.1086	DHW cylinder system does not supply any water. No DHW circulation	Electrical fault in cylinder loading pump	▪ Perform a power reset. ▪ If fault occurs repeatedly, replace cylinder loading pump.
F.1087	DHW cylinder system does not supply any water. No DHW circulation	Cylinder loading pump running dry	▪ Check shut-off valves. ▪ Perform a power reset. ▪ If fault occurs repeatedly, replace cylinder loading pump. ▪ Fill system.
F.1088	DHW heating off	Short circuit, cylinder loading system return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X1 of cylinder loading system control unit. Replace sensor if necessary.
F.1089	DHW heating off	Lead break, cylinder loading system return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X1 of cylinder loading system control unit. Replace sensor if necessary.
F.1090	DHW heating off	Short circuit, cylinder loading system flow temperature sensor	Check resistance value (NTC 10 kΩ) at connection X1 of cylinder loading system control unit. Replace sensor if necessary.
F.1091	DHW heating off	Lead break, cylinder loading system flow temperature sensor	Check resistance value (NTC 10 kΩ) at connection X1 of cylinder loading system control unit. Replace sensor if necessary.
F.1092	Refrigerant circuit off	Faulty configuration of refrigerant circuit controller	Check DIP switch on refrigerant circuit controller. Configure correctly if necessary.
F.1093	DHW heating on cylinder loading system off	Communication error	▪ Check settings in the commissioning assistant. Correct if required. ▪ Check plug for secure seating and corrosion. ▪ Check that the connections are correct. ▪ Perform a power reset. ▪ If fault occurs repeatedly, replace control unit of cylinder loading system.

Warning messages

Note
The possible warning messages vary according to the system equipment. Therefore, not all warning messages will come up for every system.

Message code	System characteristics	Cause	Measures
A.2	▪ Frost protection enabled ▪ Heat demand, heat pump running. ▪ DHW circulation pump enabled	Outside temperature has undershot the specified frost protection limit.	No action required
A.11	Room heating/room cooling only for some rooms	System pressure too low	Top up with water.
A.12	Incorrect time	Battery in HPMU electronics module flat.	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.
A.16	▪ Refrigerant circuit off: Inverter and compressor cannot be switched on. ▪ Instantaneous heating water heater is switched off. The instantaneous heating water heater will not start.	Minimum flow rate undershot	▪ Check secondary pump/heating circuit pump, heating/cooling circuit 1. ▪ Check flow sensor.
A.17	No increased DHW hygiene	▪ Temperature for increased DHW hygiene is not reached. ▪ DHW cylinder volume may be too large	▪ Set period for increased DHW hygiene to fall on a period with low DHW demand. ▪ Check DHW cylinder sizing.
A.19	Heat pump temporarily off	Temperature limiter has responded.	▪ No action required ▪ If issue persists, consult Viessmann Technical Service.
A.21	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Check the expansion vessel.
A.62	No scanning possible for secondary pump/heating circuit pump, heating/cooling circuit 1	Lead break, PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
A.63	No scanning possible for heating circuit pump, heating/cooling circuit 2	Lead break, PWM signal, heating circuit pump, heating/cooling circuit 2	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace heating circuit pump, heating/cooling circuit 2.
A.65	No room heating/room cooling, heating/cooling circuit 2	Heating circuit pump, heating/cooling circuit 2 running dry.	Fill system and vent.
A.66	Secondary pump/heating circuit pump, heating/cooling circuit 1 not running.	No PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.68	Heating circuit pump, heating/cooling circuit 2 not running.	No PWM signal, heating circuit pump, heating/cooling circuit 2 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.
A.74	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure drop in secondary circuit	▪ Check the expansion vessel. ▪ Fill system and vent.
A.75	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure spikes in secondary circuit	▪ Check the expansion vessel. ▪ Check the system pressure. Top up with water and vent if required.
A.82	Unstable control due to faulty pressure signal	Fault through internal monitoring of the pressure sensors of the affected CAN bus subscriber	▪ Check CAN bus subscribers. ▪ Check refrigerant circuit controller power supply. ▪ Check electronics module HPMU power supply. ▪ If the message occurs frequently, replace refrigerant circuit controller and/or HPMU electronics module.
A.83	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
A.84	No room heating	Return temperature sensor signal faulty	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
A.85	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
A.86	No room heating, heating/cooling circuit 1	Faulty signal, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.87	No room heating, heating/cooling circuit 2	Faulty signal, flow temperature sensor, heating/cooling circuit 2	Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
A.88	Heat pump temporarily off	Evaporator overheating	No action required If issue persists, clean evaporator.
A.89	Heat pump temporarily off	Condenser overheating	No action required If issue persists, consult Viessmann Technical Service.
A.90	Heat pump temporarily off	Temperature of hot gas temperature sensor CTT too high: ▪ Hot gas temperature sensor CTT faulty ▪ Compressor overheating	No action required If the fault occurs repeatedly: ▪ Check resistance value (NTC 10 kΩ) at CCT connection of refrigerant circuit controller. Replace sensor if necessary. ▪ Check the cause of exceeding the max. temperature at the compressor. Remedy any fault.
A.91	▪ The refrigerant circuit is temporarily switched off ▪ Central heating and DHW heating only via instantaneous heating water heater	▪ Outside temperature too low for heat pump operation ▪ Operation without outdoor unit, for example for screed drying ▪ Fault refrigerant circuit	No action required
A.96	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Air in the secondary circuit	Vent the system. Top up with water if required.
A.99	Refrigerant circuit temporarily off (condenser frost protection)	Flow temperature in secondary circuit downstream of condenser too low	No action required
A.100	Settings on the heat pump control unit deleted	Data memory on the electronics modules faulty	▪ No action required ▪ If the fault occurs repeatedly, replace electronics modules.

Fault messages

Note
The possible faults vary according to the system equipment. Therefore, not all fault messages will come up for every system.

Please note
Refrigerant can escape when working on the refrigerant circuit.
- It is essential that regulations and guidelines on handling refrigerant are always observed and adhered to: See "Safety information".
- Work on the refrigerant circuit must **only** be carried out by a certified contractor (in accordance with Regulations (EU) No 517/2014 and 2015/2067).
- Specialist personnel working on a refrigerant circuit with flammable refrigerant are required to have specific qualifications and certification: See "Safety information".

Please note
Repairing components that fulfil a safety function can compromise the safe operation of the system.
- Do not undertake any repairs on the inverter. Replace the inverter if there is a defect.
- Replace faulty components only with genuine Viessmann spare parts.

Message code	System characteristics	Cause	Measures
F.1	The heat pump is switched off.	Lead break, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.2	The heat pump is switched off.	Short circuit, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.3	▪ No defrost ▪ No room cooling	Lead break, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.4	▪ No defrost ▪ No room cooling	Short circuit, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.7	▪ Only room heating ▪ No DHW heating	Lead break, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.8	▪ Only room heating ▪ No DHW heating	Short circuit, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
F.13	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Lead break, outside temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. ▪ Floorstanding indoor unit: Connection at luster terminals for sensors, terminal 5 and 6
F.14	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Short circuit, outside temperature sensor	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. ▪ Floorstanding indoor unit: Connection at luster terminals for sensors, terminal 5 and 6
F.33	Refrigerant circuit off	Lead break, air inlet temperature sensor	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.34	Refrigerant circuit off	Short circuit, air inlet temperature sensor	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.74	The heat pump is switched off.	Hydraulic system pressure too low	Top up with water. Vent the system. If the fault occurs repeatedly: ▪ Check system pressure sensor with external pressure gauge. ▪ Check the pre-charge pressure of the expansion vessel. ▪ Check settings for set system pressure and range.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.75	The heat pump is switched off.	No flow in the secondary circuit, or flow sensor faulty	▪ Check secondary pump//heating circuit pump, heating/cooling circuit 1. Replace secondary pump//heating circuit pump, heating/cooling circuit 1 if required. ▪ Check flow sensor. Replace flow sensor if required.
F.87	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Reduce the system pressure.
F.91	Function of connected components in emergency mode	DIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections to DIO electronics module and connection to HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace DIO electronics module.
F.92	Function of connected components in emergency mode	ADIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on ADIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace ADIO electronics module.
F.93	Function of connected components in emergency mode	M2IO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on M2IO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace M2IO electronics module.
F.94	Function of the relevant electronics module in emergency mode	SDIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on SDIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace SDIO electronics module.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.99	Function of the electronics modules connected to PlusBus not available	Communication error PlusBus	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Wall mounted indoor unit: Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.100	Function of the electronics modules connected to PlusBus not available	Short circuit, PlusBus	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Wall mounted indoor unit: Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.101	Function of the electronics modules connected to PlusBus not available	PlusBus voltage error	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Wall mounted indoor unit: Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.102	No WiFi	Communication error, WiFi communication module	Replace the WiFi communication module.
F.103	No operation possible	HMI programming unit communication error	Replace HMI programming unit.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.104	Depending on configuration of EM-EA1 extension (DIO electronics module)	External fault message input active	▪ Check the settings in the commissioning assistant for fault message input. Adjust settings if required. ▪ Check connected external appliance.
F.111	Refrigerant circuit off	Lead break, liquid gas temperature sensor, heating	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.112	Refrigerant circuit off	Short circuit, liquid gas temperature sensor, heating	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.117	Refrigerant circuit off	Lead break, evaporator suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.5/X20.6 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.118	Refrigerant circuit off	Short circuit, evaporator suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.5/X20.6 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.123	Refrigerant circuit off	Lead break, liquid gas temperature sensor, condenser	Check resistance value (NTC 10 kΩ) at connection X15.1/X15.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.124	Refrigerant circuit off	Short circuit, liquid gas temperature sensor, condenser	Check resistance value (NTC 10 kΩ) at connection X15.1/X15.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.147	Refrigerant circuit off	Lead break, compressor suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.148	Refrigerant circuit off	Short circuit, compressor suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.149	The refrigerant circuit is controlled with the replacement value.	Lead break, liquid gas temperature sensor, cooling	Check resistance value (NTC 10 kΩ) at connection X16.1/X16.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.150	The refrigerant circuit is controlled with the replacement value.	Short circuit, liquid gas temperature sensor, cooling	Check resistance value (NTC 10 kΩ) at connection X16.1/X16.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.151	Refrigerant circuit off	Lead break, hot gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.152	Refrigerant circuit off	Short circuit, hot gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.155	The refrigerant circuit is locked.	Fault, electronic expansion valve 1	Check electronic expansion valve 1. Replace expansion valve if required.
F.156	The refrigerant circuit is locked.	Fault, electronic expansion valve 2	Check electronic expansion valve 2. Replace expansion valve if required.
F.160	No communication between the affected electronics modules	CAN bus general communication fault between the affected electronics modules	▪ Check the CAN bus cable. ▪ Check the CAN bus subscriber numbers. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cables. Replace the electronics modules if required.
F.425	Values in energy cockpit incorrect	Time synchronisation not possible	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.
F.430	Operation with internal set value specifications of the heat pump control unit	Communication error, gateway	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to the gateway.
F.431	Operation with internal set value specifications of the heat pump control unit	KNX/TP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to KNX/TP gateway.
F.454	The refrigerant circuit is locked.	Incorrect version of operating software for the electronics modules	▪ Check the version of the operating software for HPMU and EHCU electronics modules and for the VCMU refrigerant circuit controller. ▪ Install correct software version if required.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.472	No communication with energy meter	Communication error, energy meter	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check the connections to the HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.519	Operation with internal set value specifications of the heat pump control unit	BACnet/IP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to BACnet/IP gateway.
F.520	Refrigerant circuit off	Communication error, Modbus	▪ Check the Modbus cable between inverter and refrigerant circuit controller VCMU at connection X11/X13 on refrigerant circuit controller VCMU. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller and/or the inverter.
F.542	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 1 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.543	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 1 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.544	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 2 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.545	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 2 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.546	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 3 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.547	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 3 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.548	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 4 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.549	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 4 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.623	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.624	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.625	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/cooling circuit 2	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.626	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/cooling circuit 2	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.627	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/cooling circuit 3	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.628	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/cooling circuit 3	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.629	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/cooling circuit 4	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.630	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/ cooling circuit 4	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.685	▪ Function of connected components in emergency mode ▪ Frost protection enabled	HPMU electronics module communication error	▪ Check the connections to the HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.686	The refrigerant circuit will not start.	VCMU refrigerant circuit controller communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on VCMU refrigerant circuit controller. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.
F.687	▪ The heat pump is switched off. ▪ No function of connected components	EHCU electronics module communication error	▪ Check connections on EHCU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the EHCU electronics module.
F.770	Refrigerant circuit off	Lead break, flow temperature sensor, secondary circuit downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X15.3/X15.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.771	Refrigerant circuit off	Short circuit, flow temperature sensor, secondary circuit downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X15.3/X15.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.772	Refrigerant circuit can only be operated when outside temperatures are above 5 °C	Lead break, oil sump temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.3/X20.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.773	Refrigerant circuit can only be operated when outside temperatures are above 5 °C	Short circuit, oil sump temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.3/X20.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.788	▪ No room heating/cooling ▪ No DHW heating	Fault, control and/or power supply of 4/3-way valve	▪ Check connections on motor of 4/3-way valve. ▪ Check motor of 4/3-way valve. ▪ Replace motor if necessary.
F.790	▪ No room heating/cooling ▪ No DHW heating	▪ Motor of 4/3-way valve not correctly mounted ▪ 4/3-way valve faulty	▪ Check mounting of motor: See separate installation instructions. ▪ Check hydraulic and electrical connections of 4/3-way valve. ▪ Check motor of 4/3-way valve. ▪ Replace motor and/or 4/3-way valve if required.
F.791	Reduced output, instantaneous heating water heater	Phase L1 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.792	Reduced output, instantaneous heating water heater	Phase L2 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.793	Reduced output, instantaneous heating water heater	Phase L3 in power supply of instantaneous heating water heater not present	▪ Check fuse for instantaneous heating water heater. ▪ Check power supply on instantaneous heating water heater and on connections of indoor unit. ▪ Check power cables. ▪ Check instantaneous heating water heater. Replace if required.
F.797	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
F.798	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.
F.799	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.800	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.
F.801	Fault, outdoor unit, no refrigerant circuit reversal	4-way diverter valve faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check 4-way diverter valve (function check). Replace coil if required. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the 4-way diverter valve.
F.808	The refrigerant circuit will not start.	Lower fan not running.	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check lower fan via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the lower fan.
F.812	The refrigerant circuit will not start.	Upper fan not running.	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check upper fan via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the upper fan.
F.819	The refrigerant circuit will not start.	Lead break, electronic expansion valve 1	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 1 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 1.
F.820	The refrigerant circuit will not start.	Lead break, electronic expansion valve 2	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 2 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 2.
F.823	The refrigerant circuit will not start.	Short circuit, electronic expansion valve 1	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 1 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 1.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.824	The refrigerant circuit will not start.	Short circuit, electronic expansion valve 2	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 2 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 2.
F.827	The instantaneous heating water heater will not start.	High limit safety cut-out has responded.	▪ Reset the high limit safety cut-out. ▪ Check instantaneous heating water heater. Replace if required. ▪ Safeguard the minimum flow rate. Check flow sensor. Replace if required. ▪ Safeguard the minimum flow rate. Check secondary pump / heating circuit pumps. Replace if required.
F.829	Flow rate too low, insufficient heat provision	Filter in ball valve of outdoor unit is contaminated	Clean the filter in the outdoor unit ball valve.
F.830	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.831	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.832	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Inverter temperature sensor faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.833	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Inverter temperature sensor faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.834	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Check the power supply of the outdoor unit (compressor power supply). If the fault persists, contact the power supply utility.
F.835	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Unsuitable inverter or inverter incorrectly programmed	Consult Viessmann Technical Service.
F.836	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Overvoltage fault on inverter	▪ Check power connection on compressor. ▪ If the fault persists, replace the inverter. ▪ If the fault persists, replace the compressor.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.837	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on compressor faulty	▪ Check the electrical connection between inverter and compressor. ▪ If the fault persists, replace the inverter.
F.838	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Control of inverter faulty	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the inverter.
F.839	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Compressor blocked	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the compressor.
F.841	Compressor running unevenly.	▪ Excessive compressor torque ▪ Compressor power consumption high	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the compressor. ▪ Issue new demand to compressor. ▪ If the fault persists, replace the compressor.
F.843	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Overvoltage shutdown, inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.845	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Unsuitable inverter or inverter incorrectly programmed	Refer to type plate and order no. to check whether correct part was delivered and installed. If the fault persists, replace the inverter.
F.846	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Compressor rotating field counter-rotating	▪ Check phase connections on inverter. ▪ Check compressor power supply.
F.847	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Voltage error on inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.848	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Voltage error on inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.864	▪ No defrost ▪ Compressor cannot be switched on.	Outdoor unit defrost attempt unsuccessful	Check outdoor unit for icing up. De-ice if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.865	Refrigerant circuit off	High pressure fault: ▪ Air in the secondary circuit ▪ Secondary circuit/heating circuit shut off ▪ Secondary pump or heating circuit pumps blocked or faulty ▪ Condenser contaminated ▪ High pressure sensor faulty ▪ Set flow temperatures for central heating/DHW heating too high	▪ Vent the secondary circuit. ▪ Check the system pressure. ▪ Check secondary pump and heating circuit pumps. ▪ Flush heating circuits. ▪ Measure voltage at connection X14.1/X14.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary. ▪ Adjust set temperatures of consumers. ▪ Check outdoor unit for icing up. De-ice if necessary.
F.866	Refrigerant circuit off	Low pressure fault: ▪ Too little refrigerant ▪ Evaporator contaminated ▪ Fans blocked or faulty	▪ Check amount of refrigerant. Top up refrigerant if required. ▪ Clean the evaporator. ▪ Check fans. Remove blockages. Replace fans if required.
F.867	Heat pump off	Float air vent valve in the outdoor unit has responded. ▪ Too much air in the secondary circuit during venting ▪ Quick-action air vent valve may be faulty Or ▪ Refrigerant present in the float air vent valve	Specialist personnel working on a refrigerant circuit with flammable refrigerant are required to have specific qualifications and certification: See "Safety information". ⚠ **Danger** Escaping refrigerant can lead to explosions that result in very serious injuries. Observe guidance on measures and steps to take in the event of escaping refrigerant: See "Safety information". **If a message appears during venting:** ▪ Check the quick-action air vent valve. Replace quick-action air vent valve if required. ▪ Restart filling programme. **If a message appears during operation:** ▪ Isolate the system from the power supply. ▪ Shut off the hydraulic connection between the indoor and outdoor unit. ▪ Notify Viessmann Werke Technical Service.
F.876	The heat pump is switched off.	Lead break, flow sensor	Check flow sensor. Replace flow sensor if required.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.881	The refrigerant circuit will not start.	Refrigerant circuit safety shutdown	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.912	Refrigerant circuit off	Interior temperature sensor fault	Check resistance value (NTC 10 kΩ) at connection P1.8/P1.9 on the inverter. Replace sensor if necessary.
F.913	Refrigerant circuit off	Interior temperature too high	Reduce ambient temperature, for example through sun protection.
F.983	The refrigerant circuit will not start.	Internal inverter fault	Check inverter. Replace inverter if required.
F.984	The refrigerant circuit will not start.	Control of electronic expansion valve 1 faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.
F.985	The refrigerant circuit will not start.	Control of electronic expansion valve 2 faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.
F.990	Secondary circuit not controlled	Short circuit, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.991	Secondary circuit not controlled	Lead break, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.992	No heating/cooling of external heating water/coolant buffer cylinder	Short circuit, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.993	No heating of external heating water/coolant buffer cylinder	Lead break, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.994	No heating of external heating water buffer cylinder	Short circuit, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.
F.995	No heating of external heating water buffer cylinder	Lead break, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.
F.996	No cooling of external coolant buffer cylinder	Short circuit, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.997	No cooling of external coolant buffer cylinder	Lead break, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.998	The refrigerant circuit will not start.	Flow rate signal faulty	▪ Check flow sensor. Replace if required. ▪ Check CAN bus connections: – CAN bus cable, indoor/outdoor unit – Check connection X19 on EHCU electronics module. – Check connections X4 on HPMU electronics module. – Check connection X5 on EHCU electronics module. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cable. Replace EHCU electronics module if required. Replace HPMU electronics module if required. If the fault occurs repeatedly, replace VCMU refrigerant circuit controller, internal CAN bus cable harness and EHCU electronics module.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.1009	Refrigerant circuit off	Fault, oil sump heater	Check oil sump heater. Check electrical connections X4 on VCMU refrigerant circuit controller. Replace oil sump heater if required.
F.1010	Refrigerant circuit off	Fault, secondary circuit pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X11 of the EHCU electronics module (0 to 5 V). Replace sensor if necessary.
F.1011	Refrigerant circuit off	Fault, high pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). Replace sensor if necessary.
F.1012	Refrigerant circuit off	Fault, low pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). Replace sensor if necessary.
F.1045	External heat generator not ready for operation	Fault on external heat generator	Check fault message on control unit of external heat generator. Remedy the fault. Installation and service instructions for external heat generator and associated control unit
F.1049	External heat generator not ready for operation	3/2-way mixing valve not switching.	Check the 3/2-way mixing valve. Replace if required.
F.1050	Uncontrolled operation of the external heat generator	Short circuit, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.
F.1051	Uncontrolled operation of the external heat generator	Lead break, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.
F.1054	External heat generator not ready for operation	Max. temperature of external heat generator exceeded	Check the cause of exceeding the max. temperature at the external heat generator. Remedy any fault. Installation and service instructions for external heat generator and associated control unit
F.1056	Heat pump off	Inverter relay faulty	Replace inverter.

Warning messages

Note
The possible warning messages vary according to the system equipment. Therefore, not all warning messages will come up for every system.

Message code	System characteristics	Cause	Measures
A.2	▪ Frost protection enabled ▪ Heat demand, heat pump running. ▪ DHW circulation pump enabled	Outside temperature has undershot the specified frost protection limit.	No action required
A.11	Room heating/room cooling only for some rooms	System pressure too low	Top up with water.
A.12	Incorrect time	Battery in HPMU electronics module flat.	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.
A.16	▪ Refrigerant circuit off: Inverter and compressor cannot be switched on. ▪ Instantaneous heating water heater is switched off. The instantaneous heating water heater will not start.	Minimum flow rate undershot	▪ Check secondary pump/heating circuit pump, heating/cooling circuit 1. ▪ Check flow sensor.
A.17	No increased DHW hygiene	▪ Temperature for increased DHW hygiene is not reached. ▪ DHW cylinder volume may be too large	▪ Set period for increased DHW hygiene to fall on a period with low DHW demand. ▪ Check DHW cylinder sizing.
A.21	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Check the expansion vessel.
A.62	No scanning possible for secondary pump/heating circuit pump, heating/cooling circuit 1	Lead break, PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
A.63	No scanning possible for heating circuit pump, heating/cooling circuit 2	Lead break, PWM signal, heating circuit pump, heating/cooling circuit 2	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace heating circuit pump, heating/cooling circuit 2.
A.65	No room heating/room cooling, heating/cooling circuit 2	Heating circuit pump, heating/cooling circuit 2 running dry.	Fill system and vent.
A.66	Secondary pump/heating circuit pump, heating/cooling circuit 1 not running.	No PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.
A.68	Heating circuit pump, heating/cooling circuit 2 not running.	No PWM signal, heating circuit pump, heating/cooling circuit 2 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.70	Flow rate too low	Filter in ball valve of outdoor unit is contaminated	Clean the filter in the outdoor unit ball valve.
A.71	Insufficient compressor output	Excess current on compressor	If message occurs frequently, check compressor.
A.72	Insufficient compressor output	Current of power factor correction filter too high	If message occurs frequently, check inverter.
A.73	Insufficient compressor output	Frequency deviation between actual and set compressor speed	If message occurs frequently, check compressor.
A.74	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure drop in secondary circuit	▪ Check the expansion vessel. ▪ Fill system and vent.
A.75	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure spikes in secondary circuit	▪ Check the expansion vessel. ▪ Check the system pressure. Top up with water and vent if required.
A.80	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Fan blocked	▪ Check outdoor unit for icing up. De-ice if necessary. ▪ Check fans can rotate freely.
A.81	▪ Performance factor (COP) too low ▪ Compressor output too low ▪ Refrigerant circuit off	Insufficient heat transfer in evaporator	Check evaporator. Clean if necessary.
A.82	Unstable control due to faulty pressure signal	Fault through internal monitoring of the pressure sensors of the affected CAN bus subscriber	▪ Check CAN bus subscribers. ▪ Check refrigerant circuit controller VCMU power supply. ▪ Check electronics module HPMU power supply. ▪ If the message occurs frequently, replace refrigerant circuit controller VCMU and/or electronics module HPMU.
A.83	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
A.84	No room heating	Return temperature sensor signal faulty	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.85	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Replace sensor if necessary. ▪ Wall mounted indoor unit: Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. ▪ Floorstanding indoor unit: Connection at plug 5 on the HPMU electronics module
A.86	No room heating, heating/ cooling circuit 1	Faulty signal, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
A.87	No room heating, heating/ cooling circuit 2	Faulty signal, flow temperature sensor, heating/cooling circuit 2	Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
A.91	▪ The refrigerant circuit is temporarily switched off ▪ Central heating and DHW heating only via instantaneous heating water heater	▪ Outside temperature too low for heat pump operation ▪ Operation without outdoor unit, for example for screed drying ▪ Fault refrigerant circuit	No action required
A.93	Refrigerant circuit operation impaired	Values for hot gas pressure in relation to hot gas temperature not plausible	Check sensors. Replace both sensors if required. ▪ To check the high pressure sensor, measure the voltage at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the hot gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller.
A.94	Refrigerant circuit operation impaired	Values for suction gas pressure in relation to suction gas temperature not plausible	Check sensors. Replace both sensors if required. ▪ To check the low pressure sensor, measure the voltage at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the suction gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller.
A.96	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Air in the secondary circuit	Vent the system. Top up with water if required.

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Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.99	Refrigerant circuit temporarily off (condenser frost protection)	Flow temperature in secondary circuit downstream of condenser too low	No action required
A.100	Settings on the heat pump control unit deleted	Data memory on the electronics modules faulty	▪ No action required ▪ If the fault occurs repeatedly, replace electronics modules.
A.101	Refrigerant circuit operation impaired	Values for hot gas temperature in relation to hot gas pressure not plausible	Check sensors. Replace both sensors if required. ▪ To check the high pressure sensor, measure the voltage at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the hot gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller.
A.102	Refrigerant circuit operation impaired	Values for suction gas temperature in relation to suction gas pressure not plausible	Check sensors. Replace both sensors if required. ▪ To check the low pressure sensor, measure the voltage at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the suction gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller.

Fault messages

Note
The possible faults vary according to the system equipment. Therefore, not all fault messages will come up for every system.

Please note
Refrigerant can escape when working on the refrigerant circuit.
- It is essential that regulations and guidelines on handling refrigerant are always observed and adhered to: See "Safety information".
- Work on the refrigerant circuit must **only** be carried out by a certified contractor (in accordance with Regulations (EU) No 517/2014 and 2015/2067).
- Specialist personnel working on a refrigerant circuit with flammable refrigerant are required to have specific qualifications and certification: See "Safety information".

Please note
Repairing components that fulfil a safety function can compromise the safe operation of the system.
- Do not undertake any repairs on the inverter. Replace the inverter if there is a defect.
- Replace faulty components only with genuine Viessmann spare parts.

Message code	System characteristics	Cause	Measures
F.1	The heat pump is switched off.	Lead break, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.2	The heat pump is switched off.	Short circuit, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
F.3	▪ No defrost ▪ No room cooling	Lead break, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.4	▪ No defrost ▪ No room cooling	Short circuit, secondary circuit return temperature sensor	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
F.7	▪ Only room heating ▪ No DHW heating	Lead break, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. If required, replace the sensor.
F.8	▪ Only room heating ▪ No DHW heating	Short circuit, cylinder temperature sensor	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. If required, replace the sensor.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.13	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Lead break, outside temperature sensor	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. If required, replace the sensor.
F.14	An outside temperature value of 0 °C is used to calculate the set flow temperature.	Short circuit, outside temperature sensor	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 11 and 12. If required, replace the sensor.
F.33	Refrigerant circuit off	Lead break, air inlet temperature sensor	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.34	Refrigerant circuit off	Short circuit, air inlet temperature sensor	Check resistance value (NTC 10 kΩ) at connection X16.3/X16.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.74	The heat pump is switched off.	Hydraulic system pressure too low	Top up with water. Vent the system. If the fault occurs repeatedly: ▪ Check system pressure sensor with external pressure gauge. ▪ Check the pre-charge pressure of the expansion vessel. ▪ Check settings for set system pressure and range.
F.75	The heat pump is switched off.	No flow in the secondary circuit, or flow sensor faulty	▪ Check secondary pump//heating circuit pump, heating/cooling circuit 1. Replace secondary pump//heating circuit pump, heating/cooling circuit 1 if required. ▪ Check flow sensor. Replace flow sensor if required.
F.87	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Reduce the system pressure.
F.91	Function of connected components in emergency mode	DIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections to DIO electronics module and connection to HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace DIO electronics module.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.92	Function of connected components in emergency mode	ADIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on ADIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace ADIO electronics module.
F.93	Function of connected components in emergency mode	M2IO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on M2IO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace M2IO electronics module.
F.94	Function of the relevant electronics module in emergency mode	SDIO electronics module communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on SDIO electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace SDIO electronics module.
F.99	Function of the electronics modules connected to PlusBus not available	Communication error PlusBus	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.100	Function of the electronics modules connected to PlusBus not available	Short circuit, PlusBus	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.101	Function of the electronics modules connected to PlusBus not available	PlusBus voltage error	▪ Check PlusBus power supply at HPMU electronics module: Isolate all PlusBus components connected. Reconnect each one in turn. ▪ Check connections at plug 74 of the HPMU electronics module. ▪ Check the connections at plug 74 on the connection socket on the underside of the appliance. ▪ Check whether there is a short circuit at the PlusBus cables. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.102	No WiFi	Communication error, WiFi communication module	Replace the WiFi communication module.
F.103	No operation possible	HMI programming unit communication error	Replace HMI programming unit.
F.104	Depending on configuration of EM-EA1 extension (DIO electronics module)	External fault message input active	▪ Check the settings in the commissioning assistant for fault message input. Adjust settings if required. ▪ Check connected external appliance.
F.111	Refrigerant circuit off	Lead break, liquid gas temperature sensor, heating	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.112	Refrigerant circuit off	Short circuit, liquid gas temperature sensor, heating	Check resistance value (NTC 10 kΩ) at connection X21.1/X21.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.117	Refrigerant circuit off	Lead break, evaporator suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.5/X20.6 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.118	Refrigerant circuit off	Short circuit, evaporator suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.5/X20.6 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.123	Refrigerant circuit off	Lead break, liquid gas temperature sensor, condenser	Check resistance value (NTC 10 kΩ) at connection X15.1/X15.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.124	Refrigerant circuit off	Short circuit, liquid gas temperature sensor, condenser	Check resistance value (NTC 10 kΩ) at connection X15.1/X15.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.147	Refrigerant circuit off	Lead break, compressor suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.148	Refrigerant circuit off	Short circuit, compressor suction gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.149	The refrigerant circuit is controlled with the replacement value.	Lead break, liquid gas temperature sensor, cooling	Check resistance value (NTC 10 kΩ) at connection X16.1/X16.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.150	The refrigerant circuit is controlled with the replacement value.	Short circuit, liquid gas temperature sensor, cooling	Check resistance value (NTC 10 kΩ) at connection X16.1/X16.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.151	Refrigerant circuit off	Lead break, hot gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.152	Refrigerant circuit off	Short circuit, hot gas temperature sensor	Check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.155	The refrigerant circuit is locked.	Fault, electronic expansion valve 1	Check electronic expansion valve 1. Replace expansion valve if required.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.156	The refrigerant circuit is locked.	Fault, electronic expansion valve 2	Check electronic expansion valve 2. Replace expansion valve if required.
F.160	No communication between the affected electronics modules	CAN bus general communication fault between the affected electronics modules	▪ Check the CAN bus cable. ▪ Check the CAN bus subscriber numbers. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cables. Replace the electronics modules if required.
F.425	Values in energy cockpit incorrect	Time synchronisation not possible	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.
F.430	Operation with internal set value specifications of the heat pump control unit	Communication error, gateway	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to the gateway.
F.431	Operation with internal set value specifications of the heat pump control unit	KNX/TP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to KNX/TP gateway.
F.454	The refrigerant circuit is locked.	Incorrect version of operating software for the electronics modules	▪ Check the version of the operating software for HPMU and EHCU electronics modules and for the VCMU refrigerant circuit controller. ▪ Install correct software version if required.
F.472	No communication with energy meter	Communication error, energy meter	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check the connections to the HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.519	Operation with internal set value specifications of the heat pump control unit	BACnet/IP gateway communication error	▪ Check connections and connecting cable to the gateway. Replace cable if required. ▪ Check power supply to BACnet/IP gateway.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.520	Refrigerant circuit off	Communication error, Modbus	▪ Check the Modbus cable between inverter and refrigerant circuit controller VCMU at connection X11/X13 on refrigerant circuit controller VCMU. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller and/or the inverter.
F.542	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 1 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.543	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 1 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 1. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.544	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 2 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.545	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 2 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch S1 on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 2. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.546	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 3 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.547	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 3 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 3. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.548	Mixer closes. Heating circuit pump is operational.	Lead break, flow temperature sensor, heating/cooling circuit 4 with mixer Or Wrong setting during commissioning	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.549	Mixer closes. Heating circuit pump is operational.	Short circuit, flow temperature sensor, heating/cooling circuit 4 with mixer	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check setting of rotary switch on ADIO electronics module. ▪ Check flow temperature sensor in heating/cooling circuit 4. ▪ Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
F.623	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.624	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.625	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/ cooling circuit 2	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.626	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/ cooling circuit 2	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.627	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/ cooling circuit 3	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.628	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/ cooling circuit 3	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.629	Mixer closes. Heating circuit pump switches off.	Lead break, return temperature sensor, heating/ cooling circuit 4	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.630	Mixer closes. Heating circuit pump switches off.	Short circuit, return temperature sensor, heating/ cooling circuit 4	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at mixer extension kit. Replace sensor if necessary.
F.685	▪ Function of connected components in emergency mode ▪ Frost protection enabled	HPMU electronics module communication error	▪ Check the connections to the HPMU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace HPMU electronics module.
F.686	The refrigerant circuit will not start.	VCMU refrigerant circuit controller communication error	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check connections on VCMU refrigerant circuit controller. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.

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Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.687	▪ The heat pump is switched off. ▪ No function of connected components	EHCU electronics module communication error	▪ Check connections on EHCU electronics module. ▪ Check whether components are wrongly connected. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the EHCU electronics module.
F.770	Refrigerant circuit off	Lead break, flow temperature sensor, secondary circuit downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X15.3/X15.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.771	Refrigerant circuit off	Short circuit, flow temperature sensor, secondary circuit downstream of condenser	Check resistance value (NTC 10 kΩ) at connection X15.3/X15.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.772	Refrigerant circuit can only be operated when outside temperatures are above 5 °C	Lead break, oil sump temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.3/X20.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.773	Refrigerant circuit can only be operated when outside temperatures are above 5 °C	Short circuit, oil sump temperature sensor	Check resistance value (NTC 10 kΩ) at connection X20.3/X20.4 of the VCMU refrigerant circuit controller. Replace sensor if necessary.
F.788	▪ No room heating/cooling ▪ No DHW heating	Fault, control and/or power supply of 4/3-way valve	▪ Check connections on motor of 4/3-way valve. ▪ Check motor of 4/3-way valve. ▪ Replace motor if necessary.
F.797	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
F.798	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.
F.799	Secondary pump/heating circuit pump, heating/cooling circuit 1 is off. ▪ No room heating, heating/cooling circuit 1 ▪ No DHW heating	Secondary pump/heating circuit pump, heating/cooling circuit 1 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
F.800	Heating circuit pump, heating/cooling circuit 2 is off. ▪ No room heating, heating/cooling circuit 2 ▪ No DHW heating	Heating circuit pump, heating/cooling circuit 2 is faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace heating circuit pump, heating/cooling circuit 2.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.801	Fault, outdoor unit, no refrigerant circuit reversal	4-way diverter valve faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check 4-way diverter valve (function check). Replace coil if required. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the 4-way diverter valve.
F.808	The refrigerant circuit will not start.	Lower fan not running.	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check lower fan via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the lower fan.
F.812	The refrigerant circuit will not start.	Upper fan not running.	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check fan can rotate freely. ▪ Check upper fan via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the upper fan.
F.819	The refrigerant circuit will not start.	Lead break, electronic expansion valve 1	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 1 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 1.
F.820	The refrigerant circuit will not start.	Lead break, electronic expansion valve 2	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 2 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 2.
F.823	The refrigerant circuit will not start.	Short circuit, electronic expansion valve 1	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 1 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 1.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.824	The refrigerant circuit will not start.	Short circuit, electronic expansion valve 2	▪ Check connections on VCMU refrigerant circuit controller. ▪ Check electronic expansion valve 2 via actuator test. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace electronic expansion valve 2.
F.829	Flow rate too low, insufficient heat provision	Filter in ball valve of outdoor unit is contaminated	Clean the filter in the outdoor unit ball valve.
F.830	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.831	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.832	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Inverter temperature sensor faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.833	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Inverter temperature sensor faulty	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.834	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on inverter faulty	Check the power supply of the outdoor unit (compressor power supply). If the fault persists, contact the power supply utility.
F.835	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Unsuitable inverter or inverter incorrectly programmed	Consult Viessmann Technical Service.
F.836	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Overvoltage fault on inverter	▪ Check power connection on compressor. ▪ If the fault persists, replace the inverter. ▪ If the fault persists, replace the compressor.
F.837	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Power supply on compressor faulty	▪ Check the electrical connection between inverter and compressor. ▪ If the fault persists, replace the inverter.
F.838	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Control of inverter faulty	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the inverter.
F.839	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Compressor blocked	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the compressor.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.841	Compressor running unevenly.	▪ Excessive compressor torque ▪ Compressor power consumption high	▪ Issue new demand to compressor. ▪ If the fault occurs frequently, replace the compressor. ▪ Issue new demand to compressor. ▪ If the fault persists, replace the compressor.
F.843	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Overvoltage shutdown, inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.845	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Unsuitable inverter or inverter incorrectly programmed	Refer to type plate and order no. to check whether correct part was delivered and installed. If the fault persists, replace the inverter.
F.846	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Compressor rotating field counter-rotating	▪ Check phase connections on inverter. ▪ Check compressor power supply.
F.847	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Voltage error on inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.848	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Voltage error on inverter	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.864	▪ No defrost ▪ Compressor cannot be switched on.	Outdoor unit defrost attempt unsuccessful	Check outdoor unit for icing up. De-ice if necessary.
F.865	Refrigerant circuit off	High pressure fault: ▪ Air in the secondary circuit ▪ Secondary circuit/heating circuit shut off ▪ Secondary pump or heating circuit pumps blocked or faulty ▪ Condenser contaminated ▪ High pressure sensor faulty ▪ Set flow temperatures for central heating/DHW heating too high	▪ Vent the secondary circuit. ▪ Check the system pressure. ▪ Check secondary pump and heating circuit pumps. ▪ Flush heating circuits. ▪ Measure voltage at connection X14.1/X14.2 of the VCMU refrigerant circuit controller. Replace sensor if necessary. ▪ Adjust set temperatures of consumers. ▪ Check outdoor unit for icing up. De-ice if necessary.
F.866	Refrigerant circuit off	Low pressure fault: ▪ Too little refrigerant ▪ Evaporator contaminated ▪ Fans blocked or faulty	▪ Check amount of refrigerant. Top up refrigerant if required. ▪ Clean the evaporator. ▪ Check fans. Remove blockages. Replace fans if required.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.867	Heat pump off	Float air vent valve in the outdoor unit has responded. ▪ Too much air in the secondary circuit during venting ▪ Quick-action air vent valve may be faulty Or ▪ Refrigerant present in the float air vent valve	Specialist personnel working on a refrigerant circuit with flammable refrigerant are required to have specific qualifications and certification: See "Safety information". ⚠ **Danger** Escaping refrigerant can lead to explosions that result in very serious injuries. Observe guidance on measures and steps to take in the event of escaping refrigerant: See "Safety information". **If a message appears during venting:** ▪ Check the quick-action air vent valve. Replace quick-action air vent valve if required. ▪ Restart filling programme. **If a message appears during operation:** ▪ Isolate the system from the power supply. ▪ Shut off the hydraulic connection between the indoor and outdoor unit. ▪ Notify Viessmann Werke Technical Service.
F.876	The heat pump is switched off.	Lead break, flow sensor	Check flow sensor. Replace flow sensor if required.
F.881	The refrigerant circuit will not start.	Refrigerant circuit safety shutdown	Isolate the system from the power supply. Restart the system. If the fault persists, replace the inverter.
F.912	Refrigerant circuit off	Interior temperature sensor fault	Check resistance value (NTC 10 kΩ) at connection P1.8/P1.9 on the inverter. Replace sensor if necessary.
F.913	Refrigerant circuit off	Interior temperature too high	Reduce ambient temperature, for example through sun protection.
F.983	The refrigerant circuit will not start.	Internal inverter fault	Check inverter. Replace inverter if required.
F.984	The refrigerant circuit will not start.	Control of electronic expansion valve 1 faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.985	The refrigerant circuit will not start.	Control of electronic expansion valve 2 faulty	▪ Check connections on VCMU refrigerant circuit controller. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the VCMU refrigerant circuit controller.
F.990	Secondary circuit not controlled	Short circuit, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.991	Secondary circuit not controlled	Lead break, temperature sensor	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.992	No heating/cooling of external heating water/coolant buffer cylinder	Short circuit, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.993	No heating/cooling of external heating water/coolant buffer cylinder	Lead break, temperature sensor of external heating water/coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.994	No heating/cooling of external heating water/coolant buffer cylinder	Short circuit, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.
F.995	No heating/cooling of external heating water/coolant buffer cylinder	Lead break, temperature sensor of external heating water buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17.1/X17.2 of the EHCU electronics module. Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.996	No heating/cooling of external heating water/coolant buffer cylinder	Short circuit, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.997	No heating/cooling of external heating water/coolant buffer cylinder	Lead break, temperature sensor of external coolant buffer cylinder	▪ Check the settings in the commissioning assistant. Adjust settings if required. ▪ Check resistance value (NTC 10 kΩ) at connection X17 of the EHCU electronics module. Replace sensor if necessary.
F.998	The refrigerant circuit will not start.	Flow rate signal faulty	▪ Check flow sensor. Replace if required. ▪ Check CAN bus connections: – CAN bus cable, indoor/outdoor unit – Check connection X19 on EHCU electronics module. – Check connections X4 on HPMU electronics module. – Check connection X5 on EHCU electronics module. ▪ Isolate the system from the power supply. Restart the system. If the fault persists, replace the CAN bus cable. Replace EHCU electronics module if required. Replace HPMU electronics module if required. If the fault occurs repeatedly, replace VCMU refrigerant circuit controller, internal CAN bus cable harness and EHCU electronics module.
F.1009	Refrigerant circuit off	Fault, oil sump heater	Check oil sump heater. Check electrical connections X4 on VCMU refrigerant circuit controller. Replace oil sump heater if required.
F.1010	Refrigerant circuit off	Fault, secondary circuit pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X11 of the EHCU electronics module (0 to 5 V). Replace sensor if necessary.
F.1011	Refrigerant circuit off	Fault, high pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). Replace sensor if necessary.

Fault messages (cont.)

Message code	System characteristics	Cause	Measures
F.1012	Refrigerant circuit off	Fault, low pressure sensor	To check the sensor, measure the voltage at the sensor or at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). Replace sensor if necessary.
F.1045	External heat generator not ready for operation	Fault on external heat generator	Check fault message on control unit of external heat generator. Remedy the fault.  Installation and service instructions for external heat generator and associated control unit
F.1049	External heat generator not ready for operation	3/2-way mixing valve not switching.	Check the 3/2-way mixing valve. Replace if required.
F.1050	Uncontrolled operation of the external heat generator	Short circuit, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.
F.1051	Uncontrolled operation of the external heat generator	Lead break, boiler water temperature sensor, external heat generator	Check resistance value (NTC 10 kΩ) at connection TS2 of the HIO electronics module. Replace sensor if necessary.
F.1054	External heat generator not ready for operation	Max. temperature of external heat generator exceeded	Check the cause of exceeding the max. temperature at the external heat generator. Remedy any fault.  Installation and service instructions for external heat generator and associated control unit
F.1056	Heat pump off	Inverter relay faulty	Replace inverter.

Warning messages

Note

The possible warning messages vary according to the system equipment. Therefore, not all warning messages will come up for every system.

Message code	System characteristics	Cause	Measures
A.2	▪ Frost protection enabled ▪ Heat demand, heat pump running. ▪ DHW circulation pump enabled	Outside temperature has undershot the specified frost protection limit.	No action required
A.11	Room heating/room cooling only for some rooms	System pressure too low	Top up with water.
A.12	Incorrect time	Battery in HPMU electronics module flat.	▪ Replace CR2032 battery in HPMU electronics module. ▪ Set the time on the programming unit: See operating instructions.

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Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.16	The refrigerant circuit is switched off. Inverter and compressor cannot be switched on.	Minimum flow rate undershot	▪ Check secondary pump/heating circuit pump, heating/cooling circuit 1. ▪ Check flow sensor.
A.17	No increased DHW hygiene	▪ Temperature for increased DHW hygiene is not reached. ▪ DHW cylinder volume may be too large	▪ Set period for increased DHW hygiene to fall on a period with low DHW demand. ▪ Check DHW cylinder sizing.
A.21	The safety valve in the indoor unit has opened.	Hydraulic system pressure too high	Check the expansion vessel.
A.62	No scanning possible for secondary pump/heating circuit pump, heating/cooling circuit 1	Lead break, PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace secondary pump/heating circuit pump, heating/cooling circuit 1.
A.63	No scanning possible for heating circuit pump, heating/cooling circuit 2	Lead break, PWM signal, heating circuit pump, heating/cooling circuit 2	Isolate the system from the power supply. Restart the system. If the message remains displayed, replace heating circuit pump, heating/cooling circuit 2.
A.65	No room heating/room cooling, heating/cooling circuit 2	Heating circuit pump, heating/cooling circuit 2 running dry.	Fill system and vent.
A.66	Secondary pump/heating circuit pump, heating/cooling circuit 1 not running.	No PWM signal, secondary pump/heating circuit pump, heating/cooling circuit 1 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.
A.68	Heating circuit pump, heating/cooling circuit 2 not running.	No PWM signal, heating circuit pump, heating/cooling circuit 2 Incorrect circulation pump installed	Use only spare parts supplied or approved by Viessmann.
A.70	Flow rate too low	Filter in ball valve of outdoor unit is contaminated	Clean the filter in the outdoor unit ball valve.
A.71	Insufficient compressor output	Excess current on compressor	If message occurs frequently, check compressor.
A.72	Insufficient compressor output	Current of power factor correction filter too high	If message occurs frequently, check inverter.
A.73	Insufficient compressor output	Frequency deviation between actual and set compressor speed	If message occurs frequently, check compressor.
A.74	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure drop in secondary circuit	▪ Check the expansion vessel. ▪ Fill system and vent.
A.75	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Pressure spikes in secondary circuit	▪ Check the expansion vessel. ▪ Check the system pressure. Top up with water and vent if required.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.80	Refrigerant circuit off: Inverter and compressor cannot be switched on.	Fan blocked	▪ Check outdoor unit for icing up. De-ice if necessary. ▪ Check fans can rotate freely.
A.81	▪ Performance factor (COP) too low ▪ Compressor output too low ▪ Refrigerant circuit off	Insufficient heat transfer in evaporator	Check evaporator. Clean if necessary.
A.82	Unstable control due to faulty pressure signal	Fault through internal monitoring of the pressure sensors of the affected CAN bus subscriber	▪ Check CAN bus subscribers ▪ Check refrigerant circuit controller VCMU power supply. ▪ Check electronics module HPMU power supply. ▪ If the message occurs frequently, replace refrigerant circuit controller VCMU and/or electronics module HPMU.
A.83	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. If required, replace the sensor.
A.84	No room heating	Return temperature sensor signal faulty	Check resistance value (NTC 10 kΩ) at connection X4.3/X4.4 of the EHCU electronics module. Replace sensor if necessary.
A.85	No DHW heating	Cylinder temperature sensor signal faulty	Check resistance value (NTC 10 kΩ). Connection on the underside of the appliance to 6-pole connection socket on the right, terminals 9 and 10. If required, replace the sensor.
A.86	No room heating, heating/cooling circuit 1	Faulty signal, flow temperature sensor, secondary circuit or heating/cooling circuit 1	Check resistance value (NTC 10 kΩ) at connection X4.1/X4.2 of the EHCU electronics module. Replace sensor if necessary.
A.87	No room heating, heating/cooling circuit 2	Faulty signal, flow temperature sensor, heating/cooling circuit 2	Check resistance value (NTC 10 kΩ) at the sensor input on ADIO electronics module. Replace sensor if necessary.
A.91	▪ The refrigerant circuit is temporarily switched off ▪ Central heating and DHW heating only via external heat generator	▪ Outside temperature too low for heat pump operation ▪ Operation without outdoor unit, for example for screed drying ▪ Fault refrigerant circuit	No action required

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.93	Refrigerant circuit operation impaired	Values for hot gas pressure in relation to hot gas temperature not plausible	Check sensors. Replace both sensors if required. ▪ To check the high pressure sensor, measure the voltage at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the hot gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller.
A.94	Refrigerant circuit operation impaired	Values for suction gas pressure in relation to suction gas temperature not plausible	Check sensors. Replace both sensors if required. ▪ To check the low pressure sensor, measure the voltage at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the suction gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller.
A.96	▪ Unusual operating noise ▪ Unusual starting and operational characteristics	Air in the secondary circuit	Vent the system. Top up with water if required.
A.99	Refrigerant circuit temporarily off (condenser frost protection)	Flow temperature in secondary circuit downstream of condenser too low	No action required
A.100	Settings on the heat pump control unit deleted	Data memory on the electronics modules faulty	▪ No action required ▪ If the fault occurs repeatedly, replace electronics modules.
A.101	Refrigerant circuit operation impaired	Values for hot gas temperature in relation to hot gas pressure not plausible	Check sensors. Replace both sensors if required. ▪ To check the high pressure sensor, measure the voltage at connection X14.1 to X14.3 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the hot gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.9/X14.10 of the VCMU refrigerant circuit controller.

Warning messages (cont.)

Message code	System characteristics	Cause	Measures
A.102	Refrigerant circuit operation impaired	Values for suction gas temperature in relation to suction gas pressure not plausible	Check sensors. Replace both sensors if required. ▪ To check the low pressure sensor, measure the voltage at connection X14.4 to X14.6 of the VCMU refrigerant circuit controller (0 to 5 V). ▪ To check the suction gas temperature sensor, check resistance value (NTC 10 kΩ) at connection X14.7/X14.8 of the VCMU refrigerant circuit controller.
A.109	Heat provided by external heat generator is insufficient	Actual boiler water temperature too low	Check settings for external heat generator. If necessary, check settings on external heat generator.  Installation and service instructions for external heat generator and associated control unit
A.110	External heat generator not ready for operation	Max. temperature of external heat generator reached	No action required. If message occurs frequently, check settings for external heat generator. If necessary, check settings on external heat generator.  Installation and service instructions for external heat generator and associated control unit

Declarations of conformity for respective heat pump

We, Viessmann Climate Solutions SE,
D-35108 Allendorf, declare as sole responsible body that the named product complies with the European directives and supplementary national requirements in terms of its design and operational characteristics.

Using the serial number, the Declaration of Conformity can be found on the following website:
www.viessmann.co.uk/eu-conformity

Keyword index

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