

# Release Notes

NAVIGATOR® 2.0

IDM Energiesysteme GmbH

20.23-90 and T\_20.23-609 / 11.01.2024

**Legionella function / Boost function:** The legionella function and boost function was not triggered/executed correctly. This has been rectified and the legionella function and boost function are now carried out correctly again.

**PV communication / Huawei:** Communication and connection stability have been improved.

**CONCLUSIONS:** Update for all start-ups and maintenance work

20.23-84 and T\_20.23-597 / 19.12.2023

**ALM heat pumps / Low pressure error before defrost operation:** In the case of ALM heat pumps, the reference measurement of the defrost difference in the non-controlled state led to an incorrect defrost evaluation in some systems, which could subsequently lead to low pressure errors. This reference measurement has been revised in the current software so that this can no longer occur.

**AERO ALM 10-24 / Bivalence "Parallel" does not switch on:** Bivalence was not activated for certain compressor capacities/ranges. This has now been corrected.

**Differential pressure too low / 4-way valve switchover:** When "Bivalence for defrosting" was activated, it could happen that the 4-way valve was switched with a time delay. This meant that the necessary differential pressure for the switchover could not always be ensured. This switchover function has been revised with the current software, which means that this behaviour no longer occurs.

**Frost protection / Flushing function:** With modulating heat pumps, the charging pump was previously controlled at 20% during the flushing function. This speed can be borderline, especially for systems with long connection lines and/or increased pressure losses. With the current software, the charging pump now starts at 50% for modulating heat pumps and increases its speed as required (if the minimum flow rate is not reached). For non-modulating heat pumps, the charging pump always starts at 100%.

**Digital inputs:** The incorrect display in the "Digital inputs" menu has been fixed.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Modulating heat pumps / Heating mode / Minimum compressor output:**

The minimum compressor output is now adapted to the respective operating point of the heat pump. This can prevent problems with the overheating control and thus also the "Hot gas too low" error.

**Heating circuit / Heating request:** The request temperature of a heating circuit for heating mode is now no longer overwritten by the lower request temperature for frost protection.

**Navigator Pro / Cooling mode:** In the event of a sensor error, heating mode was incorrectly requested every 3 h the heating mode was incorrectly requested. This has been corrected.

**PV:** The control behaviour and the switch-on threshold have been revised/adjusted. The incorrect display of the power consumption (3 Watts) when the heat pump is at a standstill has been corrected.

**PV communication / PV signal "Sungrow":** The PV signal "Sungrow" has been implemented. This means that communication to PV systems with Sungrow inverters is now also possible!

**PV / Skip heating limit:** The setting options for the "Skip heating limit" parameter have been extended/adapted.

With the "Automatic" setting, the lower storage tank area is also loaded for systems with hygiene with STP. If "Always" is set, the thermal store is always charged, e.g. to supply a pool or for systems without a heating circuit (external demand/BMS).

**Pichler domestic ventilation:** The settings on the Pichler ventilation unit are always overwritten by the settings made on the Navigator control, e.g. also the operating mode. For maintenance purposes, the operating mode on the ventilation unit must be set to "Standby"; this setting is no longer overwritten.

**Averaged outdoor temperature:** The averaged outdoor temperature can now be overwritten using the new "Set average outdoor temperature" parameter. This allows the heating or cooling circuit or the heat pump to be quickly set to heating or cooling mode (heating/cooling limit no longer needs to be adjusted).

**Network integration / "DHCP is activated" message:**

The activation of DHCP can lead to communication problems in systems with Solar-Log, Smartfox or BMS integration (Modbus TCP, BACnet IP).

The manual setting of a static IP address is recommended so that the heat pump always has a unique IP address and communication with the above-mentioned systems functions properly.

**iPump / "Condenser temperature undershot":** In the event of short-term flow problems, the message "Condenser temperature undershot" was sometimes erroneously displayed. This has been corrected..

**CONCLUSIONS:** Update for all start-ups and maintenance work

**PV signal Huawei / WLAN integration:** Communication to the Huawei inverter now also works with WLAN integration of the Navigator control.

**iDM system cooling:** During system cooling operation, hot water charging was previously not taken into account by a time programme or by setting the hot water comfort. Now a hot water charge is triggered when a time programme is set or when hot water comfort is set.

**Average outdoor temperature:** The average outdoor temperature is now set correctly again after a software update.

**Vortex sensor:** The vortex sensors sometimes output a minimum volt value resp. flow. Values below 0.7 V are now output with 0 litres.

**Heating/cooling:** The heating or cooling request is now terminated as soon as the operating mode System is set to "Off" or "Standby" or "Hot water".

**PV / Parameter "Skip heating limit":** This parameter can now only be set for the "Hygienik with separation plate" configuration.

**Booster / Bivalence control:** The control of bivalence for systems with Booster heat pumps has been revised.

**Starting current limiter / Allen Bradley:** There were sometimes problems when resetting the starting current limiter, this has now been fixed.

**Starting current limiter / Carlo Gavazzi:** The starting current limiter can now be reset via the software.

**Thermal solar:** Switch-off conditions and safety functions revised.

**Pump/valve kick:** The pump/valve kick has been revised and is now activated by default. Weekday and time can be set.

**ALM / 4-way valve / Kick function:** The valve kick function has been revised and is now active by default.

**Cooling mode / 4-way valve:** The 4-way valve now remains in the position for cooling as long as only the operating mode cooling is carried out (no longer switches back or only switches back through another operating mode).

**Navigator Pro / Zone modules:** Zone modules can now be restarted via the "Restart zone module" parameter in the respective heating circuit menu.

**AERO ALM 10-50 Max / Software:** The AERO ALM 10-50 Max heat pumps currently have their own software version, which can be found in the Remote Control program in the folder "Software for ALM 10-50 Max".

If the ALM 10-50 Max is selected in the configuration menu with the current software 20.23-2.iup, the error message 20098 "Incompatible software" appears!

**Commissioning AERO ALM 2-8, 4-12 and 6-15 or iPump ALM 2-8 and 4-12:**

The ALM Frost Protection Wizard has been extended by the menu item "Commissioning". This now allows commissioning technicians trained by iDM (heating engineers with ALM commissioning) to commission the ALM heat pump types listed resp. 3 selected standard schemes (Advanced Config). This menu item is not relevant for iDM service technicians!

**CONCLUSIONS:** Update for all start-ups and maintenance work

**20.22-321 / 21.07.2023**

**Solar thermal control with additional solar board:** With software version 20.22-320 it can happen under certain circumstances that the set maximum temperature switch-off is not adhered to.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**20.22-320 / 31.05.2023**

**HGL control:** At high buffer tank temperatures (DHW heater sensor below B41 > HGL setpoint temperature - 2K), the HGL mixer is set to open in the event of an error (13%).

**Cascade / PV:** PV control revised. The PV demand is now not reset immediately.

**Cascade / Common charging pump:** The correct charging pump parameters are now used for the minimum and maximum values of the charging pump speed.

**Cascade / System cooling:** In the event of a cumulative error of the "Master" heat pump, no system cooling mode was determined and thus the "Slave" heat pump could not perform system cooling either. This has now been changed, so that the "Slave" heat pump can now carry out the system cooling in the event of a cumulative error of the "Master" heat pump.

**Cascade / Brine and air source heat pumps:** Cascade systems with brine and air heat pumps can now also be operated according to efficiency. The setting of operation according to "Efficiency" or "Operating hours" can be made via the "Cascade connection" parameter.

**Navigator Pro / Wireless room sensors:** When adding the room sensors, the message for pressing the button/push button is now displayed longer again.

**PV communication / "Huawei" and "Sonnen":** The PV signals "Huawei" and "Sonnen" have been implemented. Thus, communication to PV systems with Huawei inverter or to systems with Sonnen battery is now also possible!

**PV / AQA / Maximum DHW heater temperature:** The maximum DHW heater temperature for PV operation is now limited to the maximum heat pump flow temperature - 8K.

**TERRA AL 50 Max / Defrost:** The defrost logic has been adapted/improved.

**Heating circuit / Rapid reduction:** Now also works when the heating circuit changes from "Off" to "Eco".

**Bivalence:** The default values and minimum values for the bivalence points have been adjusted.

**Navigator Pro / zone module:** The 10th zone module is now also displayed with the channels.

**Booster:** The setting "Bivalence only (BV090)" on the heating heat pump no longer affects the booster heat pump, i.e. it can continue to run normally when "Bivalence only" is set to "Yes".

**Booster B (second Booster heat pump):** Automatic acknowledgement of errors now stored in the same way as for Booster A heat pump.

**Pichler living space ventilation:** The error messages are now displayed correctly. The time programmes and ventilation levels can now be set/changed in the heating engineer level.

**Electricity meter:** The electricity meter is now also displayed for non-modulating heat pumps. The calculation of the electricity quantity is carried out via stored polynomials.

**Solar control / flush function:** The flush function at high temperatures has been adjusted.

**Save data:** Now possible in heating engineer level.

**CONCLUSIONS:** Update for all start-ups and maintenance work

## 20.22-252 / 16.03.2023

**Relay test:** During the relay test, channels such as sensor values, flow sensor etc. were no longer updated and thus no correct values were displayed. Now the flow rate and temperature values are displayed correctly again.

**AERO ALM 10-24 and 10-50:** The fan manufacturer can now also be set to "Ziehl Abegg".

**AERO ALM 10-24:** The speed control of the compressors has been adjusted again, whereby depending on the heat pump type, individual speed ranges are not operated and thus a better vibration behaviour is made possible.

**Electricity meter:** The electricity meter is activated by default from this software version.

**Solar thermal system / pumps with "PWM heating":** For the solar pumps, "PWM heating" can now also be selected as the pump type.

**Pichler living space ventilation:** Changes from the time programme now work properly again.

**Variable electricity tariff:** The CAP line is now no longer displayed.

**Heating circuit „Differential temperature controlled“:** With the setting "Differential temperature controlled", the heating circuit mixer was still incorrectly displayed. This now no longer appears.

**Cascade control:** In cascade systems with Navigator 2.0 and Navigator 1.7 heat pumps, it is possible to add the Navigator 1.7 heat pumps to the cascade as "Modbus TCP-Slave" heat pumps. Problems occurred when deleting a „Modbus TCP-Slave“ heat pump. Now they can be deleted without any problems.

**Save data to USB:** This function is now only possible when the service code is entered.

**CONCLUSIONS:** Update for all start-ups and maintenance work

20.22-238 / 02.03.2023

**ALM heat pumps / Defrost:** The defrost routine has been adapted for all ALM heat pumps. This prevents the 4-way valve from getting stuck in an intermediate position after defrosting by means of an adapted differential pressure control.

**ALM heat pumps / Compressor speed control:** The speed control of the compressors has been adapted, whereby depending on the heat pump type, individual speed ranges are not operated, thus enabling better vibration behaviour.

**iPump ALM / Defrost:** The evaluation of the defrost difference has been revised in order to avoid low pressure disturbances during defrost.

**iPump T with passive cooling:** For the iPump T, direct cooling was displayed during WW charging. Since direct cooling is not possible with this heat pump type during DHW operation, this incorrect display has now been corrected.

**Navigator Pro / Gateway without sensor:** When commissioning the Navigator Pro with wireless room sensors, the gateway could not be added if it was configured without sensor function. This has been corrected.

**Cascade / Bivalence with EVU block:** The control of bivalence during an EVU block is now also possible for cascade systems. The parameter functions in the same way as for single machines and is now visible in the Settings/Cascade/ menu.

**Cascade / "Bivalence only" function:** The "Bivalence only" function can now be activated for the "Master" heat pump. If set to "Yes", all bivalencies of the cascade are automatically enabled.

**Booster heat pump:** Pumps from the pump manufacturer KSB can now be set/used.

**Hot water station:** Pumps from pump manufacturer KSB can now be set/used.

**Heating circuit / Mixer running time:** The mixer running time can now be entered in the heating engineer level.

**Relay test / Heat pump:** The relay test is now displayed in groups.

**Service data:** The date for the next leakage check can now be set in the service data.

**CONCLUSIONS:**

- **Update is mandatory for all ALM 10-24!**
- Update for all commissioning and maintenance work

**Defrosting / Low pressure fault:** The parameter "Valve 2 maximum position defrosting (ER039)" was partially not taken over correctly. This is now fixed.

**EIB/KNX:** Frequent changes of room values (setpoint temperature, humidity, ...) block the BUS communication, to prevent this, not every change is now passed on to the zone module.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**AL Twin and AERO SLM / Defrosting:** Minor adjustments for defrost operation integrated.

**AL 50/60 Max / Defrosting:** When setting the condensate drain heating to "Outdoor temperature controlled", problems could occur in defrosting mode under certain circumstances. This has now been rectified. The compressor heating is now set to "On" by default.

**Navigator Pro:**

- Problem with adding rooms fixed.
- Cooling circuits with configuration "Cooling only" are now no longer opened during defrosting
- Room with operating mode "Heating only": With a high humidity value, the dehumidification output of the zone module was erroneously activated, this is now no longer the case.

**Booster / Bivalence:** In systems with heating heat pump and Booster heat pump for DHW heating, a bivalence/E-heating element can now also be controlled in the Hygienik system.

**AERO/iPump ALM / Low pressure:** Expansion valve control revised.

**Thermal solar:** The control of standard pumps via the Triac outputs now works again.

**EIB/KNX:** In systems with several gateways in a network, these are now correctly recognised even in the event of a power failure.

**BACnet IP communication:** In some cases the BACnet IP communication was interrupted again and again, this has now been fixed.

**Heating circuit/rooms:** The information "Out of heating/cooling mode" is now displayed for the heating circuits or rooms if the system is neither in heating nor in cooling mode.

**Pump/valve kick:** Can be set/activated in the menu "Heat pump/General settings/Valve pump kick".

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Hot gas error 046/047:** The problem of hot gas temperature errors with software versions 20.22-81 to 20.22-140, where the hot gas monitoring responds too early already at 95°C instead of only at 115°C, has been fixed!

**PV / Hot water boost with E-heating element:** The problem with the start of the E-heating element, despite 0 kW surplus, after a PV hot water charge has been fixed.

**PV / Fronius:** The Ohmpilot is now correctly taken into account in the PV surplus calculation.

**iPump ALM / Active cooling:** When active cooling is configured, the cooling buffer sensor B40 is now automatically set to "Yes", i.e. in the course of the update, and mapped via B38, i.e. there is only one sensor in the buffer tank, which is used as B38 in heating and as B40 in cooling.

**Navigator Pro / Minimum opening time of rooms:** The parameter "Minimum opening time of rooms" can be used to set a minimum time for opening the rooms/actuators in case of an existing heating or cooling request.

**Internal differential temperature control:** The correct buffer tank sensor is now displayed in the heat pump menu for differential temperature control.

**Legionella function / Interval:** For systems with PV or thermal solar system, the set interval is reset when the PV or thermal solar system reaches the legionella temperature.

**BMS / parameter changes:** At 1000 parameter changes per day, the error 20202 "BMS data was written too often and is now blocked" is issued.

**SW Max P and SW Twin P / Active cooling / Sensor changeover (B33/B34):**  
In the menu "Buffer management/cooling buffer" there is now the parameter "Hydraulic connection cooling mode (PC008)" for schemes, where in active cooling mode the condenser (in cooling mode the evaporator) is flowed through in counter flow (up to now direct/co-flow).  
However, there is currently no official cooling scheme for this application, so this parameter cannot be changed at present!

**Smart Navigator / Analysis channel 482 and 483:** For the channels „Heating request cause 482" and „Cooling request cause 483", the highest/lowest heating circuit request temperature is now indicated again.

**CONCLUSIONS:** Update for all start-ups and maintenance work



**Cascade:** Hot water request is now correctly passed on by "Master" heat pump again (even if hot water mode is not set for "Master" heat pump in cascade matrix).

**Central unit touch display / Communication error:** If the central unit lost the connection to the touch display, the virtual parameters were reset to an incorrect value. This resulted in a continuous external request (occurred from software version 20.21-3). This has now been fixed.

**BACnet IP / Communication error:** The requests such as heating/cooling/hot water (binary BACnet objects) can now be written again (did not work from software version 20.22-2).

**Heating circuit / Thermostat function:** The thermostat symbol is now displayed correctly again.

**Zone module / Time:** Error message 31001 "Zone module date/time" is output if the time from the zone module does not match the time from the touch display (central unit).

**Navigator Pro / PV Surplus:** New parameter "Rooms on comfort mode" integrated. This parameter can be used to set that the rooms are managed at the stored comfort temperature in case of sufficient PV surplus (heating/cooling), depending on the set heating and cooling limit.

**Navigator Pro / Communication:** Modbus communication to the zone module has been optimized.

**Heating circuit B / Dew point monitor:** Error message 039 "Dew point monitor uncontrolled circuit triggered" integrated.

**Sensors:** Short circuit and interruption is displayed correctly again.

**Solar:** When setting pump manufacturer "Wave package" and pump type "PWM Solar", the digital output "Collector pump" or "Solar charging pump/ Heat source charging pump" was not controlled. This now works again.

**Fresh water cascade:** Various improvements/adjustments made.

**myiDM / Parameter changes:** Performed parameter changes of periods where the heat pump was "Offline" are now reset as soon as the heat pump is "Online" again.

**USB stick:** Is now recognized correctly again.

**PV signal Fronius / Communication:** The error message 20302 "Solar API is deactivated" is now output if the communication interface at the Fronius inverter is not activated.

**Differential temperature control:** Menu item now visible in advanced level.

**Booster:**

- Relay test: The booster relay test can now be performed online (via myiDM).
- Error 25013 "Booster expansion valve error" added.
- Error 25012 "Operation limits" is now displayed on Navigator 2.0
- Booster restart via Modbus now works again

**CONCLUSIONS:** Update for all start-ups and maintenance work

## 20.22-24 / 29.07.2022

**Booster:** Control of the booster charge pump is working again.

**Softwareupdate:** For heat pumps with software 20.22-12, an update with the latest software (currently 20.22-21) must be carried out, otherwise no software update can be carried out for such systems in the future.

If the error "Central unit version invalid" does not disappear after the update, the central unit must be updated with the "Central unit initial software" via the SD card of the central unit.

**ALM frost protection function:** The frost protection function can now be restarted.

**Navigator Pro:** Communication revised (speed optimized).

**BACnet IP / Vendor ID:** The BACnet Vendor ID for iDM has been stored (so that manufacturer-specific extensions can be distinguished from each other in BACnet).

**CONCLUSIONS:** Update for all start-ups and maintenance work

## 20.22-9 / 07.07.2022

**Update / Touch display stays black:** The problem that the touch display stays black after a software update should now be fixed.

**WLAN stick:** The "old" WLAN sticks now work again with the new/faster touch displays (MMI23).

**Modulation / Maximum power cooling:** Maximum value was stored incorrectly, this has been corrected.

**Sensor inputs:** Instead of "Interruption" some sensors showed "not present", this has been changed.

**BACnet IP / Modbus TCP:** The room information is now provided and processed correctly again. All mandatory properties are now readable.

**CONCLUSIONS:** Update for all start-ups and maintenance work.

## 20.22-3 / 23.06.2022

**Booster:** The constant restarts of the central unit when the "Booster" is configured for DHW have been fixed.

Booster request for heating no longer interrupts the booster hot water request in cascade systems with common pumps.

**iPump:** The cooling valve M62 is now controlled and is now also drawn in the electrical circuit diagram.

**Pichler residential ventilation:** The air volume is now correctly entered again.

**USB stick / Load configuration:** The menu item should now appear or be displayed correctly for all USB sticks.

**PV function:** In cooling mode no start of heating mode with PV as long as cooling valve M62 is in cooling position.

**DHW heater sensor B41:** If the DHW heater sensor at the bottom B41 is defective, the DHW is charged via the DHW heater sensor at the top B48. If this is not present, then no more DHW charging is done.

**Cascade / Passive cooling:** Passive cooling now works in parallel in heating and DHW mode.

**BACnet IP:** The BACnet version has been updated, now the BACnet port can be set.

**CONCLUSIONS:** Update for all start-ups and maintenance work

20.21-142 / 25.05.2022

**Relay test:** Menu revised/adapted.

**Condensate drain heating "Outdoor temperature controlled":** The runtime of the condensate drain heating now changes depending on the outdoor temperature (OT).  
OT +10 °C → runtime 2 min; OT +5 °C → runtime 5 min; OT 0 °C → runtime 10 min;  
OT -5 °C → runtime 20 min; OT -10°C → runtime 30 min

**AERO ILM:** The fan manufacturer "Ziehl-Abegg" is now also supported.

**Screed heating / heating element:** The parameter "Heating element support screed heating (HSx20)" has been added. When activating the parameter, the bivalence point of bivalence 1 is set to +40°C for the period of screed heating.

**Navigator Pro:** The Navigator Pro expansion board is now recognized correctly again for all touch display versions. The copy function of the time program now works correctly again. Various messages have been adjusted/corrected.

**PV function:** The PV hot water boost is now additionally terminated depending on the setting of the parameter "DHW heating abort (PV029)". Various adjustments made.

**Booster:** Pump/valve kick can now be activated.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**iDM System Cooling:**

ISC cooling and recooling is now correctly displayed in the cascade overview.  
The control of the recooling mixer M117 in the relay test has been integrated.

**PV control / compressor speed control:** The change of the compressor speed (rps) in operation with PV surplus now works again. The speed change is limited to 15 rps/min now.

The clocking of the operating mode (without compressor start) has been fixed/improved.

**Solar "Register" or Internal differential temperature control:** It is now possible to configure the DHW heater sensor below (B41) or the heating buffer sensor (B38) as reference sensor.

**KNX/Modbus TCP/BACnet IP:**

BMS buffer sensors (heating and cooling buffer sensor, as well as DHW sensor bottom and top) can now also be used.

Variable BMS request temperatures for heating and cooling can now be communicated via register 1696 and 1698.

The register named "Current error" has been renamed to "Internal message".

**PV / Floor heating:** The set value of the parameter "Floor heating (PV003)" is now also taken into account in the room influence calculation.

**Booster / Update:** In case of a Navigator 2.0 software update of the heating heat pump, from now on an update of the Booster heat pump will always be performed automatically.

**Subcooling valve:** The subcooling valve is now displayed again in the relay test.

**Cascade:** Stage limitation of AL Twin heat pumps at high outdoor temperatures (> 16°C) implemented.

**Fresh water cascade:** The fresh water cascade is now configurable.

**USB stick / Load configuration:** Loading the configuration from a USB stick has been revised again.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**PV / Heating buffer maximum temperature:** Maximum value changed to "Maximum heat pump flow temperature (WP001) - 8 K".

**Hot water station / Advanced control:** In the menu "Settings/Domestic hot water preparation/Hot water station/Control" the extended control for the pump of the hot water station can be activated. The properties of the hot water station are taken into account, therefore the maximum flow rate, the pump model and any mixing valve must be set when configuring the hot water station. The "Advanced control" is to be used only if there are problems with the tap temperature with the conventional control!

**Navigator Pro / flow fault:** In the event of a brief communication error to the zone module, the relay outputs are now no longer set to "Off", so flow faults should no longer occur.

**Navigator Pro with heating buffer / Parameter "Rooms open for defrost":** The parameter "Rooms open for defrost" can now be used to select whether or not the rooms/zones should open during defrost for systems with heating buffer.

**Fan manufacturer parameter (CF086):** In this parameter, the fan manufacturer (EBM Papst or Ziehl Abegg) must be set, depending on the fan installed.

**Cascade / Legionella function:** The Legionella function now also works for cascade systems.

**Cascade / Bivalence:** The control of the bivalence now also works if all compressor stages are not available or not enabled (EVU block, ...).

**S0 counter module:** Configuration works again.

**Subcooling valve (M85):** Is now displayed correctly again.

**USB stick / Load configuration:** Loading the configuration from a USB stick now works again.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Passive cooling:** The M74 cooling valve was no longer controlled for heat pumps with the "Passive cooling" configuration in software versions 20.20-1 to 20.20-86. This has been corrected.

**Defrost / Flow rate:** If the minimum flow rate for defrosting is set below 5 l/min, then a warning is displayed now.

**Navigator Pro / Frost protection for rooms:** The frost protection function for the rooms is now working again.

**Cascade:** Modulating compressors now always run the minimum run time.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Bivalence for single-stage heat pumps:** Under certain circumstances, the bivalence switch did not work correctly with the legionella function or with boost hot water charging, as well as with bivalence mode "Alternative". This has been corrected.

**SLM 6-17 / Defrost:** The compressor now always switches off before defrosting. The start opening during defrost is now 60% instead of 75% (during an update the start opening is set to 60%).

**AERO ALM 2-15:** Maximum differential pressure at start now 4 bar (previously 10 bar).

**AERO ALM 10-24 / subcooling valve:** The default value for the maximum position is now 90% instead of 100%.

**Hot gas modulation:** Hot gas modulation has been activated for heat pumps with rotary piston compressors (AERO ILM 2-7, iPump T 2-8, iPump A 2-7).

**Analog outputs:** The analog outputs are now displayed correctly again.

**Building management system:** Register 1098 "Status EVU lock" added (0...EVU lock, 1...no EVU lock).

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Direct circuit with Pro:** The flow malfunctions and also the malfunction of the electric heater overheating when switching to defrost mode have been eliminated.

**Frost protection outdoor unit:** The charge pump switches on when the heat pump flow temperature or the heat pump return temperature drops below the minimum heat pump flow temperature (7°C) + 2K and the outdoor temperature or the air intake temperature is below +10°C.

**Cascade / Bivalence:** The bivalence function for bivalences with charge pump M73 has been revised.

**Display activation:** Changes/improvements made.

**Building management system:** Register/data point added for load sensor B45.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**Heating circuit / Room influence factor with BMS room sensor:** The parameter room influence factor or the value set there is now also effective for heating circuits where the room temperature recording is set to "BMS room sensor".

**AERO ALM - iPump ALM / Hot water switch-off temperature:** The switch-off temperature for hot water charging is now set to 50°C by default.

**iPump ALM / Defrost:** "Defrost start position (ER121)" changed from 75% to 55%.

**PV control / Smart Grid Status:** Switching back from Smart Grid Status is now also blocked for 10 minutes before compressor start to prevent cycling.

**Hot water station / Optimized PID Control:** In the menu "Settings/Domestic hot water preparation/Hot water station/Control" the optimized PID control of the pump of the hot water station can be activated. The properties of the hot water station are taken into account, therefore the maximum flow rate, the pump model and any mixing valve must be set when configuring the hot water station.

**Navigator Pro / Heating mode of the heat pump:** For systems with heating buffer, the heating mode is now always terminated, even if the requirement for the Pro heating circuit is omitted, i.e. the rooms are warm enough.

**Display activation:** Changes/improvements made.

**BMS:** Register 1748 / Datapoint 399 "Heat quantity heating" added.

**Cooling circuit / parameter "Room temperature detection":** The room temperature detection can now also be configured in the heating engineer level.

**iPump T with process reversal and additional buffer / cooling circuits:** The mixer circuits now continue to run in cooling mode even during hot water charging.

**Passive cooling:** The maximum speed of the groundwater or brine pump can now be set via the new parameter "Heat source pump maximum speed passive cooling (CF043)".

**Time program hot water and circulation:** Copy time program now works via multiple choice.

**Cascade / Restart:** In cascade systems with common pumps, the "slave" heat pump now no longer displays a fault.

**Copy data to USB:** The function has been revised/improved.

**Information menu:** Protocol version from outdoor unit is now displayed correctly.

**CONCLUSIONS:** Update for all start-ups and maintenance work

**AERO ALM/iPump ALM - Relay test:** Control of compressor heating integrated.

**AL 60 Max:** The second fan is now also displayed in the information menu.

**System cooling:** The cooling pump M84 and the switching valve M74 are now only controlled after the evaluation of the heat source temperature.  
The maximum requested heating temperature in 24h is now the maximum value of the current day and the previous day (previously it was the maximum value of the last 24h).

**SW Twin - Passive cooling:** Heating circuit mixer is now controlled correctly again in cooling mode.

**SW Twin - Relay test:** The third heat generator is now displayed.

**Cascade control:**

- Problems in ISC cooling mode fixed.
- When replacing the central unit of a "slave" heat pump, this can now also be easily changed in the cascade configuration.

**Minimum/Maximum cooling capacity:**

Default, minimum and maximum values have been adjusted for ILM 2-7, iPump A 2-7, iPump T 2-8, SW/SLM 6-17, ALM 2-8, ALM 4-12 and ALM 6-15.

**Maximum compressor stages for heating/cooling/hot water (CAM15/CAM16/CAM08):** The default and maximum values now correspond to the number of stages of the respective heat pump type.

**PV signal "Fronius":** Partly the PV surplus was calculated incorrectly.

**Heating/cooling circuit:** If no room temperature detection is configured for a cooling circuit, a warning message appears (error 360-366).

**Flow monitoring error on heating side - locking:** Error 055 is now displayed correctly again.

**Modulating groundwater heat pumps:** The minimum power for heating has been changed from 30% to 50%.

**Touch display:** The touch display can now also be woken up by simply touching it.

**LTE stick:** The LTE stick is now also recognized correctly with the new touch display.

**Copy data to USB:** The zip file for sending mail is now created again.  
If the copying of the data cannot be executed, then a message now appears.

**Load configuration:** The configuration is now loaded correctly/complete

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work



**AL 60 Twin/Max / low pressure error in cooling mode:** Expansion valve and fan control revised/improved.

**Load sensor B45 / switch-off via average value:** In heating and cooling mode, the heat pump flow sensor B33 is now used. Exception in heating mode, if there is a bivalence in the heat pump flow, then the load sensor B45 is used for averaging.

**Wilco Pumps / New Generation:** The default value for minimum pump speed in priority mode (FW024) is increased to 25% for ALM 2-8 and ALM 4-12, iPump ALM 2-8 and 4-12, SLM 3-11 and SWM 3-13.

**AERO ALM:** The heat pump flow sensor B33 is now used for the power calculation, not the charge sensor B45.

**iPump T with passive cooling module / PV boost with electric heating element:** In PV boost mode with the electric heating element, the switchover valve M74 is now controlled correctly.

**Heating circuit B / dew point monitoring:** Correction of the set flow temperature now works correctly again.

**Offset flow temperature control:** New parameter WP042 for cooling added.

**Multi-stage heat pumps:** For multi-stage single machines, the maximum stages for priority, heating and cooling can now be set.

**Building management system:** Parameter list extended with PV and bivalence parameters.

**Electric energy compressor (+fan):** Consumption from the electric heating element is now no longer included.

**Cascade control:** The setting value of the maximum compressor stages for heating, cooling and hot water for multi-stage heat pumps is now also taken into account for the cascade.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**PV / Domestic hot water with electric heating element:** Function revised.

**TERRA SW / Third heat generator:** For TERRA SW heat pumps the control of a third heat generator now also works.

**Pump setting "Grundfos/PWM heating":** For the charge pump, the brine pump and the pump of the DHW station, the control type "PWM heating" can now also be set for Grundfos pumps.

**AERO ALM and iPump ALM:** Start-up frost protection function implemented. When starting up for the first time or restarting the Navigator control, the Frost Protection Wizard appears.

**Cascade:** Pump shutdown in cooling mode revised. Stage request adapted/improved.

**Heat quantity:** Heat quantity calculation revised.

**TERRA SW H or Booster / Heat source mixer (M114):** Control revised.

**PV / SO signal:** Parameter "SO sampling window (PV028)" added in heating engineer level. The determined PV power is now limited with the value of "PV Peak Power".

**PV / Boost floor heating:** For uncontrolled heating circuits (direct circuits) the boost of the floor heating is now also possible.

**Heating heat pump with Booster:** Bivalence "Hot water or heating and hot water" is no longer selectable.

**Error messages from Navigator touch display:** Individual room control, cascade, PV and communication error messages have been implemented.

**SMA with Datamanager:** Battery power for home consumption is now taken into account.

**Building management control:** Registers/Data points (circulation pump, cascade) added/revised. Communication of KNX data points > 909 now works again.

**Navigator Pro:** Set flow temperature is now calculated correctly, even if first zone module has a connection/communication problem.

Operation mode "Absent": Incorrect display of heating mode corrected.

Operating mode "Standby": Set flow temperature is now no longer displayed.

**Booster:** Function monitoring „Flow switch“ is now set to "Yes" by default.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.18-241 / 14.04.2021

**Charge pump run-on time (WP034):** A restart is now no longer required when parameters are changed.

**Heat source temperature for brine/groundwater systems:** The "heat source temperature approaching critical value" error is now only checked during operation. The "heat source temperature undershot" error is now only checked directly after the pre-purge time and during operation.

Default value for parameter "heat source temperature lock (WP033)" now "Yes".

**WLAN-Stick:** The WLAN stick "Edimax EW-7811UnV2" is now supported (kernel update required!).

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**PV / Digital input:** „PV consumption offset PV015" parameter hidden.

**Siphon condensation drain heating:** Default value also changed to "Defrost controlled" for iPump ALM and AERO ALM.

**Cascade:** The cascade communication with the cascade members has been adjusted.

**BACnet IP:** Texts and more information added.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**AL 60 Max / Defrost:** Low pressure limit changed from 6.0 bar to 4.7 bar.

**Heat quantity:** Power and heat quantity calculation revised.

**Bivalence:** Bivalence can now also switch to active power reduction. This means that if a reduction in capacity is necessary when the expansion valve opening is large, the heat pump is considered to be fully utilized and the bivalence can therefore switch to it if necessary.

**Evaporator outlet sensor:** The error "Evaporator outlet sensor interruption" (error 151 and 183) now acknowledges itself again as soon as the temperature is back in the normal range.

**PV function:** PV control revised. PV control with E3DC adapted.

**PV communication with SMA Datamanager:** PV communication with SMA Datamanager is now possible.

Attention: Communication with the SMA Sunny Home Manager is not possible!

**Passiv- and activ cooling:** After switching from passive to active cooling, only active cooling was used. Now it is always evaluated whether passive cooling is also possible.

**Modulating air-source heat pumps:** To prevent low-pressure errors as icing progresses, defrosting is now triggered if  $t_0 < ND \text{ limit} + 5K$  and the defrosting difference is  $> 30$ .

**Defrost / Electric heating element:** Under certain circumstances the electric heating element has switched on after a defrosting, this is now prevented.

**Booster:** Lead time for charge pump and heat source pump added.

**Building management system:** BMS monitoring implemented in table form.

**Individual room control:** Room setpoint temperature (float value) can now be sent with comma, e.g. 21.7°C. This value is then rounded in steps of 0.5, this results in a value of 21.5°C.

**Load configuration:** The function has been revised, "Load Nav 2.0 parameters" now works again.

**Cascade:** Switching to "Slave" via "Master" display works again.  
Runtime statistics have been adjusted.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.18-1 / 07.01.2021

**Bivalence only: Error 270** "Stages blocked for longer period" is now no longer triggered if the "Bivalence only" parameter is set to "Yes".

**Booster:** Pre-runtime times for heat source pump and charge pump adjustable. Heat source mixer M114 is now controlled correctly.

**Defrosting:** When switching from DHW mode to defrosting, the error "Minimum condenser temperature undershot" was sometimes triggered. This has been corrected.

**AL 60 Max / Low pressure:** No more low pressure faults when the requested operating mode changes from heating to cooling during defrost.

**Cooling mode:** The charge pump now no longer runs at 100%, but at the set value from the "Charge pump maximum speed" parameter.

**Carel Inverter PSD1:** This is now also supported for the heat pump types iPump T 3-13, SWM 3-13, iPump A 3-11 and SLM 3-11.

**Machine freeze protection:** The speeds of the charge pump and heat source pump were incorrectly set to 20%. This has been fixed.

**Cascade:** For systems with system cooling and common charge pump, the charge pump control now works correctly again.

**Cascade with Booster:** Control revised.

**PV / Smartfox:** PV statistics are now displayed correctly.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**PV / Parameter "Domestic hot water preparation with electric heating element (PV025)":** With iPump T, iPump A and AERO SLM heat pumps, this parameter can be used to heat the DHW heater up to 70°C (but before this, the heat pump always overheats the DHW heater), provided there is sufficient PV power surplus. The temperature for switching over from heat pump operation to operation with the electric heating element can be set via the parameter "Switchover temperature compressor/electric heating element (PV026)".

**PV signal „Fronius“:** Communication with the inverter type GEN24 is now also supported (configuration PV signal to "Fronius").

**Parameter „Brine Intermediate Circuit (CF085)“:** This parameter may only be set for iPump ALM and AERO ALM as well as AL Twin and AL Max systems with brine intermediate circuit! This allows a lower minimum value to be set for the "Minimum heat pump flow temperature" parameter.

**Average Outdoor Temperature:** The average value of the outdoor temperature is now always correctly taken over, even after a restart from the touch display or a restart of a BMS. The humidity value and the outdoor temperature of a BMS are now always displayed correctly.

**Navigator Pro:** The zone overview now also shows the calculated dew point for the rooms.

**Parameter „Heating Circuit With Request“:** Heating circuit frost protection now possible.

**Controlled Domestic Ventilation:** In the navigator control, controlled domestic ventilation can now also be configured. With controlled domestic ventilation systems from Pichler, direct Ethernet communication (network) is possible via an on-site converter.

All other controlled domestic ventilation systems can be controlled via the configuration of a heating circuit and its pump output.

**Cascade:** Heating circuits of "Slave" heat pumps can now also be configured for cooling, even if no cooling has been configured for the "Slave" heat pumps.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**Booster heat pump:** It is now possible to control a booster heat pump (without control) by a heating heat pump with Navigator control 2.0. The domestic hot water heater parameter must then be configured to "Booster". The other settings concerning the booster heat pump are then found in the "Settings/Booster" menu.

**Legionella function:** In the case of the legionella function, the temperature for switching from heat pump to bivalence operation can now be set via the "compressor/bivalence switchover temperature (FW053)" parameter. The heat pump runs up to this temperature, then the bivalence runs up to the set boost temperature.

**PV signal "E3DC":** The PV communication to the energy management system/house power plant "E3DC" (compact system solution with inverter, charge controller, energy management and storage battery) has been integrated, i.e. in the navigator control it is now possible to set "E3DC" in the PV signal. The communication between E3DC and heat pump (navigator control) takes place via network (LAN/Ethernet).

**Parameter "Control Reset":** With this parameter, the central unit parameters, the room manager, the statistics and the touch display parameters can now be reset. When the central unit parameters are reset, all central unit parameters are reset to the factory settings, the operating hours and switching pulse counters are set to "0" and the error log is deleted! When replacing the central unit, the central unit parameters must always be reset! When the room manager is reset, all zone modules and rooms are deleted. When resetting the statistics, all statistics and graph data, as well as relevant values on the central unit, are set to "0". When resetting the touch display parameters, the parameters that are stored on the display are reset. The network settings remain available!

**"Reset Statistics" parameter:** This parameter can be used to reset the heat pump running times, heat quantities, electrical energy from the compressor (and fan) and graph data.

**Heating circuit / Heating circuit with demand:** The "Heating circuit with demand" parameter has been added. This parameter determines whether a heating/cooling circuit generates a heating or cooling request or not. If "No" is set, the heating / cooling circuit does not generate a heating or cooling request.

**iPump A and AERO SLM / Defrost:** The defrost function has been revised.

**Frost protection function:** Charge pump now always runs at 20%.

**Purge function:** In the AERO ALM, TERRA AL Twin and Max, the charge pump starts for 2 minutes if the condensation temperature drops below +3°C when the compressor is stopped.

**Heat pump flow maximum temperature error:** The premature triggering of a maximum temperature error has been rectified.

**Automatic circulation:** If the automatic circulation parameter (FW052) is set to "No", the circulation pump does not start if the tap is tapped briefly (between 1 and 3 sec).

**Parameter "Condensate drain heating control type (CL018)":** This parameter specifies the type of control of the condensate drain heating. If "Defrost controlled" is set, the condensate drain heating is active after defrosting for the set time. When "Outdoor temperature controlled" is set, the condensate drain heating is active from outdoor temperatures below +5°C!

**Navigator Pro / "Maximum flow temperature cooling" parameter:** The minimum value can now be set to 12°C (previously 16°C).

**Navigator Pro / Communication of the room setpoint temperatures via BMS:** The room setpoint temperatures can only be communicated or written in rooms with the Eco, Normal or Comfort room mode set. In rooms with the "Automatic" room mode set, the communication or writing of the target temperatures does not work. In general, the room setpoint temperatures should be set as directly as possible at the navigator control and should also not be changed constantly, as the zone modules perform an automatic restart when changes are made and thus the calculation for the management of the rooms always starts over again.

**Multiple heat pumps with one heat source:** This control function only works with the iPump T.

**Touch display / PIN lock:** The PIN lock display becomes active after the time set for this parameter if the touch display is no longer operated. With setting 0, the PIN lock is not active. The PIN lock display can be removed using the code set in the "Local network code" parameter in the Network settings menu or by entering the service code!

**Building Management System:** The brine and groundwater pump can now also be controlled via Modbus TCP, BACnet IP or EIB/KNX. With TERRA SW Max heat pumps, the brine/intermediate circuit pump and the ground water pump can be controlled separately. For all other TERRA SW heat pumps, the brine/intermediate circuit pump and the groundwater pump can be controlled separately.

**Solar "Register":** The recooling/defrosting function now works again.

**Statistics:** The statistics have been revised.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.15-45 / 09.04.2020

**Solar control / Register:** The collector temperature is now displayed correctly again.

**TERRA SW Max:** EVR PIDs adjusted.

**Flow error during defrost / Maximum defrost time exceeded:** In the event of a flow error at the start of a defrost, the calculation of the defrost time has started, despite the error. This has been corrected.

**Screed heating:** A minimum temperature holding time at the start of the screed heating program (screed holding time minimum temperature HSx19) can now be set. Heating the screed is now aborted if a setpoint temperature is not reached and the error 265 "Screed heating aborted - Setpoint temperature not reached" is issued.

**HGL output calculation:** For HGL heat pumps with vortex sensor, the instantaneous output in heating mode is calculated from the sum of the heating output share and hot water share. The heat quantity for "heating" is increased by the heating output share and the heat quantity for "hot water" by the hot water share.

**iDM system cooling:** The problem with the central unit "rebooting" in systems with iDM system cooling has been fixed.

**AQA:** The minimum running time for hot water charging has been set to 8 minutes.

**ALM:** The calculation of the heat quantity and instantaneous power is done by charge sensor B45.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.15-0 / 03.03.2020

**Bivalence / Restricted operation in case of error:** The "Restricted operation in case of error (BV091)" parameter can now be set in the "General Settings" menu. If this parameter is configured to "No", there is no reduction in the heating temperature in the event of a sum error (locking error) of the heat pump and the hot water charge is still possible. The management is carried out with the bivalence and, if necessary, with the compressor stage still functioning (for heat pumps with 2 refrigeration circuits).

**Photovoltaics:**

- **Floor heating:** For the parameter "Floor heating" the maximum value was increased from 2.0 to 6.0.
- **PV signal "Fenecon":** Calculation of the battery power revised/corrected.
- **PV signal "Modbus TCP":** The PV signal type "Modbus TCP" has been renamed to "Building Management System/Smartfox".

**Heating circuit rapid lowering (HSA042):** For heating circuits with room unit and set time program (Normal/Eco), the rapid lowering can now be activated/deactivated, i.e. when changing to "Eco", the heating circuit pump continues to run if the "Heating circuit rapid lowering" parameter is configured to "No".

**TERRA SW Max ground water:** The minimum and maximum speed of the heat source pump can now be set again. The groundwater pump and the intermediate circuit pump always run at the same min/max speed.

**"Solar/Register" or "Internal differential temperature control":** Both functions can now be selected/set again.

**Cascade control:** Various adjustments have been made.

**Navigator Pro / Zone overview:** Various adjustments (status display, room display, designation "Number" changed to "Room") in the menu „Zone Overview“ have been made.



**Application limit errors:** In the case of heat pumps with 2 refrigeration circuits (TERRA SW Max and AL Max), the other circuit/compressor can now continue to operate in the event of an error of one circuit/compressor.

**Statistics electricity meter:**

- With PV signal 0-10 V or SO, the electrical energy was incorrectly calculated in the statistics menu when the PV offset value was set. This has been corrected.
- Electric energy consumption from the electric heating element is no longer counted.

**Heat quantity statistics:** Various adjustments made.

**KNX:** PV surplus or input power of the heat pump can now be communicated via KNX.

**Modbus TCP / KNX / BACnet IP:** Data point for sum error added.  
Register 1099 (for Modbus TCP and BACnet IP) or data point 59 (for KNX).

**Save data to USB:** Function revised, now everything should be saved correctly again.

**TERRA AL Twin:** Time program "Noise-reduced operation" displayed again.

**TERRA SW Max 35 H:** Heat pump type TERRA SW Max 35 H now configurable.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.14-8 / 19.12.2019

**Air heat pumps:** For all air heat pumps with electric heating element in the heat pump flow, bivalence 1 is configured to "heating + hot water" by default and the charge pump parameter for bivalence is also set to "Yes".

**Frost protection outdoor unit CL011:** For the heat pump types TERRA AL Twin and AL Max and AERO ALM, the "Frost protection outdoor unit" parameter is active by default, i.e. if the heat pump flow or return temperature falls below the minimum heat pump flow temperature (7°C) + 2K, the charge pump M73 switches on.

**Defrost release temperature CL002:** For modulating air heat pumps the default value is now 25°C, for non-modulating ones still 15°C.

**Flow monitoring:** In systems with Vortex sensor, flow monitoring starts when the 4-way valve opens. As soon as the evaporating temperature is above 0°C, the limits for flow rate, minimum buffer temperature, minimum heat pump return temperature and minimum heat pump flow temperature are reduced.

**Update:** The warning "Heatpump params not defined in hparams" no longer appears.

**Minimum buffer temperature:** With modulating heat pumps, the minimum buffer temperature (heat pump return temperature) is reduced from 15°C to 10°C when the service code is active.

**Navigator Pro:** During defrosting, all actuators (rooms) are now always opened, even for mixer heating circuits.

**Cascade systems with PV:** All PV signals except "Digital Input" are now supported. With 0-10 V, SO signal and Modbus TCP only the excess control is active.

**KNX:** Communication revised.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

#### 20.13-20 / 28.11.2019

**Cascade:** In cascade systems with configured cooling, cooling operation was constantly requested, this was corrected

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

#### 20.13-13 / 20.11.2019

**USB stick:** Recognition revised. The "Removable Disk" menu should now appear immediately after selecting a main menu.

**PV:** PV control signals "Fronius" and "Fenecon" revised.

**Multi-stage heat pumps:** The parameters for switching on the compressor stages can now be found in the "Settings/heat pump/compressor stages" menu (previously the "Cascade system" menu).

**iDM system cooling:** Control of the recooling pump revised.  
Passive cooling can be disabled via parameters.

**Charge pump post-run time:** Parameter (WP034) post-run time charge pump in menu "Heat pump/General settings" added.

**Navigator Pro Configuration:** Parameter "Add room with BACnet" added.  
The desired temperature, the actual temperature and the relay output are now displayed in the Navigator Pro overview.

**High pressure error:** The locking error (error 025/251) now occurs when the high pressure error occurs 5 times in 24 hours.

**EVU locking:** The error 522 "Inverter timeout" at the end of the EVU lock no longer occurs with heat pumps with PSD2 inverter.

**Carel inverter:** Error 420 "Carel inverter" is output if the Carel inverter model is not detected or no suitable inverter configuration is available.

**Hot water charge at AQA:** Own high pressure error 058/059 integrated.

**Parameter "Bivalence only":** The control of the bivalence now also works for systems with Copeland/Emerson Inverter.

**Bivalence control via 0-10 V signal:** The minimum and maximum output (BV112/113) for heating and the minimum and maximum output (BV312/313) for cooling for the auxiliary heat can now be entered in the "Bivalence/Auxiliary heat 2" menu. For this purpose, the parameter "Cascade system" must be set to "Master" in the main configuration.

**Expansion valve cooling:** For modulating heat pumps, the subcooling valve (parameter CF076) must be configured after a control reset.

**AERO ILM / SLM 6-17 and SWM 6-17:** After a control reset, the corresponding inverter (parameter CF079) must be configured.

**Sum error output:** The sum error is now correctly output when the contact is closed and also when it is open (depending on configuration).

**Zone module:** Dehumidification output not active in operating mode "Off/Standby/Hot water only".

**Cascade systems:** PV control revised.  
Integrated bivalence cooling.  
Display of compressor stages in cascade menu adapted.

**Statistics:** Display of running times for direct cooling and iDM system cooling revised.

**Several heat pumps with one heat source:** Control function integrated.

**Analog outputs:** Charge pump is shown correct now.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**20.12-0 / 15.07.2019**

**iDM system cooling:** The iDM system cooling function has been revised.

**Averaged outdoor temperature:** Averaging is now carried out correctly again for TERRA SW Max heat pumps and for systems with "outdoor temperature via weather forecast" configuration.

**Defrost:** The defrost strategy for iPump A and AERO SLM has been revised.

**Flow monitor monitoring:** Error 054 "Flow monitoring faulty on heating side" is now only triggered after 2 minutes.

**High-pressure error in hot water charge with modulating heat pumps:**  
The high pressure errors at the beginning of the hot water charge have now been rectified. (Intermediate version 20.11-35 is therefore no longer required).

**GLT data logger:** To check communication with the building management system, "Switch on GLT Log" can be activated in the service level. This parameter is automatically reset after one hour.

**Error 067 "Heat source temperature interlock":** Parameter WP033 "Heat source temperature locking" can now be used to configure whether a repeated drop below the heat source minimum temperature leads to interlocking of the heat pump or not.

**Software update Navigator 2.0:** Since in some cases the software update at the heat pump and via the Smart Navigator did not work, an update with the file "UpdateFix\_09.07.2019.iup" must always be carried out immediately before the actual software update. This should ensure that the actual software update always functions correctly.

The update with the "UpdateFix\_09.07.5019.iup" is no longer required until the software 20.14 or higher has been installed on systems.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

## 20.11-51 / 12.06.2019

**AQA:** When using PV electricity, the adjustable maximum temperature is now 54°C or "Maximum flow temperature hot water - 5 K".

**TERRA SW Twin:** The first compressor is now correctly controlled again if the second compressor fails.

**Active cooling without cooling buffer:** The switching valve M62 remains in the cooling position as long as the cooling circuit has a cooling requirement.

**Cascade:**

- Minimum power for heating and cooling added
- Slave heat pumps with heating and cooling circuits: In the main configuration, the "Heating buffer sensor" parameter must be configured to "Yes" or "Cooling buffer sensor" to "Yes".
- The sum sensors B93, B95 and B96 have been deactivated.

**Building management system:** Modbus TCP and EIB/KNX can be set in parallel.

**EIB/KNX:** After a restart of the control there are no more requirements.

**Modbus TCP and EIB/KNX:** Parameters switch-on and switch-off temperature (FW027 and FW028) added. Status pumps and valves added.

**USB or SD removable disk:** As soon as the removable disk is inserted, the configuration of the system is automatically saved (restore point) if the folder "autosaveconfig" has been created on the removable disk.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

**Cascade:** The cascade function has been integrated. Communication between the cascade members takes place via the network (Ethernet).

**Electricity meter:** The electricity measurement / display of the electricity meter can only be made for devices with Emerson or Carel Inverter (iPump, AERO SLM, TERRA ML, AERO ILM and TERRA SWM).

Attention: Some devices of the above mentioned heat pump types may also have an Elrest inverter installed, the electricity measurement / display of the electricity meter does not work there!

In principle, only the inverter current is measured and displayed at brine heat pumps, and at air source heat pumps the inverter and fan current is measured and displayed.

**Heat quantity measurement:** The heat quantity measurement has been revised.

**Internal heating circuit expansion:** The sensors are now correctly detected again.

**Hot water charge with 2 sensors:** This parameter has been renamed to "Hot water sensor top".

**TERRA SW Max:** The circulation pump and the sum error message can be controlled now via a separate output.

**TERRA AL 60 Max / Defrost:** The defrost has been revised. Now, at defrosting of one compressor stage, the second compressor stage continues to run in the respective operating mode.

**iPump A/T with heating circuits A and B:** When changing from heating to hot water, the charging pump no longer switches off.

**Modulating air-heat pumps:** Defrost is aborted if the heat pump return temperature is  $\leq 15^{\circ}\text{C}$  and error 035 or 235 "Minimum buffer tank temperature for defrosting" is output.

**Passive cooling:** In groundwater systems, the brine/intermediate circuit pump M16 can now be switched on/off via the parameter (PC006) in passive cooling mode.

**Direct circuit:** Error 054 "Flow monitor error" is no longer output if the charge pump is running purely as a heating circuit pump.

**PV / Minimum battery level:** This parameter (PV024) defines the minimum battery level. If the battery level is above this value, the heat pump can be operated with PV current if the PV yield is appropriate. Below this value, the battery is first managed with the corresponding PV yield.

**Statistics menu:** The statistics menu has been revised and new statistics have been added for systems with PV signal Solar-Log, Fronius or Fenecon.

**Recovery points:** The recovery points can now be loaded from the Micro SD card or touch display.

**Flow switch monitoring (B14):**

In systems with a built-in flow switch (B14), the position of the flow switch is monitored when the heat pump and charging pump (M73) are at a standstill. If the flow switch is in the wrong position, error 054 "Flow monitor error - Check necessary" is output.

This monitoring (parameter WPO27) can also be switched off.

**Touch display operation/response time:** The response time for operation from the touch display has been improved.

**Modbus TCP / KNX:** Active operating mode of the heating/cooling circuits has been added. Communication revised.

**Navigator Pro:**

Dew point monitoring can be switched off.

Zone module frost protection temperature set to 10°C.

Zone module and room names can be changed again.

Heating screed: Rooms now also open above the heating limit.

Room configuration: Number of circuits adjustable

Early activation can be switched off

Absent operating mode: Rooms are heated correctly again.

**Bivalence:** The 0-10 V control of the bivalence for heating is possible with the TERRA AL Twin, TERRA AL Max and TERRA SW Max.

The cooling bivalence is only available for TERRA SW Max heat pumps. For all other heat pump types, no outputs are available. The 0-10 V control of the bivalence for cooling is only possible with the TERRA SW Max.

The control of the bivalence via 0-10 V or the control of the cooling bivalence only works if the parameter "Cascade system" is set to "Yes" in the main configuration.

**Error messages:**

The error 056/256 "Minimum condensor temperature locking" has been added. This is displayed if error 033/233 "Minimum condensor temperature undershoot" occurs twice in succession.

Error 057/257 "Minimum buffer temperature locking" has been added. This is displayed if error 035/235 "Minimum buffer temperature for defrosting undershoot" occurs twice in succession.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work

20.10-0 / 15.02.2019

**Noise-reduced operation:** The time program for noise-reduced operation can be set for modulating air heat pumps in the "Settings/Heat pump/ General settings" menu. As soon as a time program has been stored, the parameter "Power limitation for sound-reduced operation" is displayed. This parameter can be used to set the maximum compressor power for noise-reduced operation.

**TERRA AL Twin:** In the AL Twin, the error "Hot gas too low" occasionally occurred in the first heating operation after defrosting. This has now been corrected.

**TERRA SWM:** In case of power supply block no inverter errors are output any more.

**Electricity meter:** This parameter can only be configured for modulating heat pumps. At air-source heat pumps the compressor and the fan are taken into account and at brine heat pumps only the compressor.

**Emerson/Copeland Inverter:** Compressor start routine revised.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance work.

**iDM system cooling:** The triac outputs on the ISC board are now correctly controlled.

**Bivalence:** Bivalence is now switched off correctly for multi-stage heat pumps with the configuration "charge pump for bivalence = no" when the operating mode is changed to "OFF".

**TERRA ML:** Modbus communication problems fixed after restart/update.

**Variable electricity tariff:** Function revised.

**Electricity meter:** The polynomials for the calculation of the electrical power have been revised.

**4-way valve:** Optimization of the switching behaviour of the 4-way valve when the differential pressure is too low.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

**General:** The software version "**20.9-51.iup**" is the software for all modulating and non-modulating heat pumps with Navigator 2.0 now!

Do not use the software "**20.9-51.iup**" at cascade systems of two or more heat pumps with Navigator 2.0!

For cascade systems with Navigator 2.0 and CAN-Bus communication between the heat pumps use the software "**onoff20.1-68.iup**"!

For cascade systems with Navigator 2.0 and network communication (Ethernet) between the heat pumps a special software is available on request.

**"Copy data to USB" and "Load configuration":** The functions "**Copy data to USB**" and "**Load configuration**" have been revised.

**Parameter "Hot Water Comfort":** The parameter "**Hot water comfort (FW050)**" is shown in the user level in the menu *settings/buffer management/domestic hot water buffer/hot water loading*, when the "Hot water loading with 2 sensors" is configured.

If the parameter hot water comfort is set to "**Yes**", then the domestic hot water buffer will be loaded outside the set hot water loading time program, when the sensor B48 is under the set switching-on temperature.

If the parameter hot water comfort is set to "**No**", then the domestic hot water buffer will be loaded according to the set hot water loading time program, when the sensor B41 is under the set switching-on temperature.

**TERRA ML and AERO SLM 6-17:** Difference temperature control activated.

**External heating circuit expansion:** The communication with the external heating circuit expansion works now.

**Solar-Log:** The PV communication with the Solar-Log works also at non-modulating heat pumps now.

**Heating systems without heating circuit flow sensor:** The configured heating circuit maximum temperature works to the heat pump flow sensor at systems without heating circuit flow sensor.

**Recording the quantity of electricity:** At modulating heat pumps the value of the power consumption is coming from the inverter. At non-modulating heat pumps and heat pumps with Elrest inverter the amount of electricity is calculated.

**Navigator Pro:** At changes from the room operation mode *"Automatic"* to *"Eco/Normal/Comfort"* the desired room temperatures has been changed automatically.

At systems with direct heating circuit (without heating buffer) too many rooms were opened.

In certain circumstances wrong room temperature values and wrong outputs of the zone modules were shown.

**Thermal solar:** At setting *"Register"* the maximum domestic hot water heater temperature can be set now.

**TERRA AL Twin:** In heating mode no longer both compressors start at once.

**Heat source pump follow-up time:** The follow-up time of the heat source pump can be set via the parameter *"heat source pump follow-up time (WPO28)"* now.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

mod20.8-16 / 05.10.2018

**Defrosting:** At iPump A and AERO SLM heat pumps the speed of the compressor can be reduced to a minimum speed of 24 rps again. Partially the speed was reduced to a minimum of 40 rps only and so the defrosting could not be executed.

**PV communication:** The PV signal "Fronius" can be set for Symo and Symo Hybrid inverters. The PV signal "Fenecon" can be set for Fenecon battery storage systems.

**Modbus TCP or EIB/KNX:** The operation mode of the heating circuits can be communicated now.

**Heat quantity and runtimes:** The heat quantity and the runtimes will be shown correct in the "Statistics" menu.

**Quantity of electricity:** The parameter "Electric Meter" can be activated in the "Settings/Configuration" menu. The quantity of electricity (compressor + fan) is shown in the "Statistics" menu.

**iDM single room temperature control:** Single room temperature control revised.

- Room sensors of building management systems: Modbus TCP and EIB/KNX room sensors can be configured correct again.
- Rooms: The number of circuits can be set in the service level.
- The current room temperature is rounded to 0.5
- Screed heating: Rooms will be opened above the heating limit now.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.



**Cooling mode:** In cooling mode the heat pump starts with the last opening of the expansion valve and not with the configured start opening.  
At systems with direct cooling circuits the minimum compressor dwell time is 30 minutes.

**iPump:** Parameter "DHW loading with 2 sensors" configurable.

**iPump T with passive cooling:** The hot water mode, after passive cooling mode, works without low pressure errors now.

**ILM HGL:** In cooling mode the average value will be calculated correct now at setting "Switching off via average value".

**TERRA ML cascade:** The modulation works correct now in cooling mode.

**Machine frost protection:** The loading pump M73 starts when the heat pump flow temperature or the heat pump return temperature is under the minimum heat pump flow temperature + 2 K, independent of the outdoor temperature.

**Flow switch heating side:** The flow switch on the heating side will be observed now when the heat pump and the loading pump are not running. At a malfunction the error 054 "Flow switch faulty - Inspection necessary" will be shown.

**Navigator Pro:** At the room configuration the number of the circuits can be configured.

The mirroring of rooms from a heating circuit to different zone modules is possible now.

The time program and the temperatures can be changed at rooms with configured heating/cooling type "Cooling only".

**PV function:** The PV signal configuration is possible in the "installer level" now.

**Solar-Log:** Connection problem with heat pump solved.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

**Solar / ISC board:** Relay test revised.

**USB removable disk:** With "Load Configuration" the parameters of the central unit can be loaded now.

**Internal difference temperature control:** Added at AERO ILM and TERRA ML.

**Relay test:** Circulation pump works correct now.

**Navigator Pro:** No cooling mode when a room sensor has an error.  
Offset value for room humidity value can be set.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

**iPump - Passive cooling:** The switching valve M74 will be now controlled correctly.

**Locking error:** At locking errors the bivalence starts with reduced temperature levels. The message "*Bivalence mode! Reduced temperature levels!*" will be displayed when the locking error is on for more than 2 hours. The message "*Stages blocked for longer periods*" will be shown after 10 hours. A utility locking time is no longer a locking error.

**Heat quantity - Instantaneous power:** Will be calculated in heating and domestic hot water mode. In cooling mode the instantaneous power is shown with the value of "*Zero*".

**Condensation drain heating:** Switching on temperature changed from +2°C to +5°C.

**Boost loading:** Starts now when the lower DHW heater sensor (B41) is under the maximum hot water loading temperature (FW028).

**Heating circuit - Desired temperature:** The calculation of the desired temperature works correct again.

**Bivalence at cascade systems:** At bivalence strategy "*Alternative*" also the "*Slave*" heat pump switches off again. The bivalence stage switches on correct now.

**Defrosting mode:** The "*Maximum defrosting time*" will be introduced again at modulating heat pumps. Temperatures for parameter "*Temperature defrost end*" adjusted.

At the iPump A and Aero SLM the fan will be switched off during defrosting mode.

**PV signal:** Can be configured in the installer level now.

**Solar:** Instantaneous power will be shown correct.

**Navigator Pro - Room 9:** Time program works again.

**Navigator Pro - Sensor calibration:** Sensor calibration possible at mirrored rooms.

**WLAN Access Point:** The access via a laptop will work now.

**Heating circuit F and G:** Control of the heating circuit pumps corrected.

**External heating circuit expansion module:** The sensor type of the heating circuit flow sensors is KTY again.

**Modbus communication:** In the menu "*Informations/Inputs-Outputs/Bus connection*" the communication values of all Modbus members will be shown.

**Operation mode:** Operation mode "*Only Heating*" changed to "*Only heating/cooling*".

**Relay test:** At heat pumps with flow switch the message "Flow/no flow" will be shown in the line of the loading pump.

**Micro SD card:** The SD card will be monitored now and messages (SD card not available or SD card error) will be shown in case of a defect.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

#### mod20.4-0 - 21.12.2017

**Manual Defrost:** A manual defrost is possible now when the parameter "Safety defrost interval (CL008)" is set between 0.1 and 0.5 hours.

**Defrost mode / Heating element:** The electrical heating element switches on when the heat pump flow temperature fall below 25°C during defrost mode.

**Network communication:** Problems with the network connection and related restarts solved. The Modbus TCP communication has been improved.

**Cooling circuit:** At mixer heating circuits the cooling mode ends, when the cooling circuit flow temperature is 2K below the desired cooling flow temperature for more than 5 minutes.

**Add on time:** The add on time can be set for heating and cooling now.

**Relay test:** Control of the charge pump with PWM signal corrected.

**External setpoint 0-10V:** The value of the external 0-10V signal is shown in the menu "Settings/Informations/In-Outputs/Sensors".

**Hot water mode:** At hot water heating with 2 sensors the lower sensor B41 is used as switch on condition during an active hot water time program (charging time). Outside the charging times the upper sensor B48 is used as switching on condition. *If the hot water heating should be done within the charging times only, then the parameter "Hot water loading with 2 sensors" must be set to "No".*

**Hot water mode with AQA:** High pressure errors during hot water mode should not occur anymore.

**Boost function:** At a "One-time Boost Loading" the bivalence (auxiliary heat) is activated correctly now.

**Flow monitoring heating side:** The locking error (Error 045 / 5x in 24 hours) of the flow monitoring on the heating side has been deactivated.

**Thermal Solar:** During initial phase the collector pump is running with 100%. Collector pump can run at collector sensor interruption by using the collector return sensor.

Adjustment range for collector maximum temperature 70-200°C and for collector minimum temperature 10-80°C.

At solar scheme "Register" the setting "On-Off" and "Wave packet" has been removed at the parameter pump manufacturer.

**Machine type:** AERO SLM, TERRA SWM, AERO ILM 2-7, iPump A 2-8 and iPump T 2-8 added.

**Pro with direct heating circuit:** Switching on and off behaviour between heat pump and heating circuit revised. The defrost mode at with heating circuit B works correct now.

**KNX/Modbus TCP:** Communication with Navigator Pro revised.

**Direct cooling:** The intermediate circuit pump M16 at groundwater heat pumps is not running during direct cooling now. Exception: iPump with integrated direct cooling module.

**Statistics menu:** Statistics were shown correct now.

**Photovoltaics:**

- **Solar-Log:** The PV control has been modified from excess control to a power target value control. A Solar-Log version 3.5.3 Build87 from 23.03.2017 or higher is necessary. If the power target value is not communicated for 30 seconds the error 203 "Solar-Log update necessary" appear.
- **S0 signal:** With the parameter "S0 interface - output stage (PV016)" the output stage (PNP or NPN) of the S0 signal can be configured.
- **Consumption offset:** With the parameter "PV consumption offset (PV015)" the power consumption of the heat pump can be corrected.
- **Heating request:** The desired temperature will be communicated correctly again.
- **PV signal:** Communication via Modbus TCP integrated.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

mod20.3-1 / 04.09.2017

**Bivalence:** The accumulation of the deviation degree minutes starts when then heat pump/compressor is running with maximum speed before.  
The bivalence stage is blocked at configuration "Charging pump for bivalence = Yes" when the error contact of the charging pump M73 has been triggered (error 237).  
Utility lock for second and third heat generator (bivalence 1 and bivalence 2) adjustable separately.

**Circulation pump:** The circulation pump is no longer triggered in operation mode "Off".

**Thermal Solar:** Sensor type changed to Pt1000 at additional solar board.

**Cooling valve M61:** At setting "Sum signal zone valves" the cooling valve M61 switches to cooling position when the cooling limit is exceeded.

**iPump A:** The high pressure problems should be solved.

**EIB/KNX:** EIB/KNX communication integrated. The EIB/KNX function can be activated in the service level in the menu "Settings/Building Management System".  
The EIB/KNX module is available as an accessory.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

**Bivalence:** The bivalence function has been revised.

At blocking errors the heating circuit temperatures are set to Eco and the domestic hot water charging is no longer applied. The error message 272 will be shown as an information. To have the full functionality an emergency operation can be activated. To do this, activate the parameter "*Bivalence Only*" in the menu "*Settings/General Settings*". The error message 271 "Bivalence Manuel Active" will be shown as an information.

The deviation degree minutes for heating and domestic hot water mode are used correctly.

The bivalence point can be set to -30°C.

**Bivalent Hot Water Charge:** The bivalent hot water charge function has been revised.

After a high pressure error there is no switching to pure bivalence mode. The compressor starts once again.

**PV function:** The PV function has been revised.

Buffer management only below the heating limit and above the cooling limit.

PV-Signal 0-10V must be connected to clamp 93/95 of the Navigator main board.

Smartfox and other Modbus energy management systems for own consumption optimization will be supported. Parameter "Time constant average PV power" added.

**Defrosting:** The defrosting function has been revised.

Defrosting mode can be started by setting the safety defrosting interval to 0.1 h.

At outdoor temperatures between -6°C and +5°C a safety defrost is made when the safety defrost interval is set between 0.6 and 6 h.

The error "Minimum buffer temperature for defrosting undershoot" can be acknowledged.

The "Defrost Deadtime" increased from 120 to 180 sec and the "Temperature Defrost End" set to 38°C.

**Single room temperature control:** By starting the screed drying program the actuators open for all rooms, which are not in operation mode "Off".  
Some internals.

**Relay test:** Control of the 230V voltage supply of the charging pump M73 added.  
The control of the sum error / circulation pump is shown correctly.

**iPump A:** Minimum/maximum fan speed changed to 4.1V.

**Cooling circuit:** Cooling request now also at systems without heating circuit flow sensor and without buffer.

**Modbus TCP:** Modbus TCP communication integrated. The Modbus TCP function can be activated in the service level in the menu "Settings/Building Management System".

**Compressor heating:** Works at AERO ILM (Navigator main board clamp 20).

**Weather data:** Changeover to new weather data provider.

Some internals.

**VERSION CONCLUSIONS:** Update for all start-ups and maintenance.

**mod20.1-0 / 01.04.2017**

**First delivery!**