

1 Commissioning Protocol

Information about the system	
Customer/systems manager	
Installer:	
Commissioner:	
Commissioning date:	
Type of collector:	Number of circuits: _____ Length per circuit: _____ m
Additional heat (oil/gas/electricity): _____	Manufacture / Type: _____
Additional heat output: _____	
Hot water production: _____	Manufacturer: _____
Number of tanks:	Total volume: _____
Expansion vessel heating system: _____ litres	Manufacture / Type: _____
Expansion vessel collector circuit: _____ litres	Manufacture / Type: _____
Accessories, addressing of all accessories:	
Check the pipe connections to and from Z1, Zx...:	
Check that the collector circuit is correctly designed, connected and insulation:	
Check that the brine has the correct mixture (water/antifreeze): _____ %	
Freeze limit as per refractometer _____ °C Pressure: _____ Bar: _____	
Check that the heating circuit is correctly designed and connected:	
Check that the hot water circuit is correctly designed and connected:	
Check the voltage supplies in the system: L1 _____ L2 _____ L3 _____	
Other:	
Customer/systems manager informed of how the heat pump is operated:	
Documentation handed over:	
Date/signature of installer/commissioner:	

Tab. 1 Commissioning protocol

2 Commissioning Z1

Information about heat pump Z1	
Heat pump:	Serial number:
Date of manufacture:	
Unscrew the transport locks and visually inspect the heat pump:	
Check fuses and electrical connections:	
Switch on the supply voltage to the heat pump:	
Circulation pump heating circuit PC0 (54-80 kW):	
Circulation pump collector circuit PB3 (54-80 kW):	
Enable the fuse and check the heat carrier pump PC0 and collector circuit pump PB3:	
Set the control unit as per the installation table:	
Set the control unit as per the accessory table:	
Function test of all inputs/outputs:	
Other:	

Tab. 2 Commissioning protocol Z1

3 Commissioning Z1

Set the control unit as per installation tables below. Write down/delete under selected values in column **Range** in the tables. For more information concerning the settings during the installation, refer to Installation Manual for the heat pump.



Always set Z1 first. Most settings are made here because, for example, additional heat and accessories are connected to this heat pump. The settings in Z1 also affect other heat pumps.

Settings	Factory	Range	Heat pump
1 Addressing (1 Addressing)			
Heat pumps (Heat pumps)			
This HP: (This HP:)	Z1	Z1-Z5	Zx
Number: (Number:)	1	1-5	Z1

Tab. 3 Addressing

Setting		Factory	Range	Heat pump
2 Room temperature (2 Room temperature)				
1 Summer/winter op. (1 Summer/winter op.)	1 Heating (1 Heating)	Continuous (Continuous)	Continuous (Continuous) Automatic (Automatic)	Z1
	2 Summer operation (2 Summer operation) Start: (Start:) TL1 > (TL1 >) in (in)	17 °C 180 min		
	3 Winter operation (3 Winter operation) Start: (Start:) TL1 < (TL1 <) in (in)	15 °C 300 min		
	4 Winter operation (4 Winter operation) Direct start: (Direct start:) TL1 < (TL1 <)	7 °C		
2 Basic setting (2 Basic setting)	1 Basic setting (1 Basic setting) DOT (DOT) Min (Min) Max (Max)	-35 °C 20 °C 60 °C		Z1
3 Heat curve (3 Heat curve)				Z1
4 Parallel offset (4 Parallel offset)	1 Parallel offset (1 Parallel offset)	0 K		Z1
5 Hysteresis (5 Hysteresis)	1 Hysteresis 1 (1 Hysteresis 1) Max (Max) Min (Min) Time factor (Time factor)	Display K Display K		Zx
	2 Hysteresis 2 (2 Hysteresis 2) Max (Max) Min (Min) Time factor (Time factor)	Display K Display K		
	3 Actual v. compr.1 (3 Actual v. compr.1) Actual v. compr. 2 (Actual v. compr. 2)	Display K Display K		
6 Attenuation TL1 (6 Attenuation TL1)	1 Attenuation TL1 (1 Attenuation TL1)	2 h		Z1
7 Deviation T0 (7 Deviation T0)	1 Deviation T0 (1 Deviation T0)	10 K		Z1

Tab. 4 Room temperature

Setting		Factory	Range	Heat pump
3 Additional heat (3 Additional heat)				
1 Add. heat type (1 Add. heat type)	1 Add. heat type (1 Add. heat type)	No additional heat (No additional heat) Comp. + add. heat (Comp. + add. heat)	No additional heat (No additional heat) Step el. heat (Step el. heat) Modulated add. heat (Modulated add. heat) Mixed add. heat (Mixed add. heat) District heating (District heating) Comp. + add. heat (Comp. + add. heat) Only additional heat (Only additional heat) Only compressor (Only compressor)	Z1
2 3-step el. heat (2 3-step el. heat)	1 Start EE1 (1 Start EE1) Hysteresis (Hysteresis) Delay (Delay) Actual v.: (Actual v.:)	3K 180° min Display, can be changed		Z1
	1 Start EE2 (1 Start EE2) Delay (Delay) Actual v.: (Actual v.:)	60° min Display, can be changed		
	3 Start EE1+EE2 (3 Start EE1+EE2) Delay (Delay) Actual v.: (Actual v.:)	60° min Display, can be changed		
	4 Stop EE1 (4 Stop EE1) Delay (Delay) Actual v.: (Actual v.:)	10° min Display, can be changed		
	5 Stop EE2 (5 Stop EE2) Delay (Delay) Actual v.: (Actual v.:)	5° min Display, can be changed		
	6 Stop EE1+EE2 (6 Stop EE1+EE2) Delay (Delay) Actual v.: (Actual v.:)	5° min Display, can be changed		
	7 Settings (7 Settings) Max no. of steps in: (Max no. of steps in:) Heating: (Heating:) Hot water: (Hot water:)	2 2	0, 1, 2, 3 0, 1, 2, 3	
	8 Power (8 Power) Step 1: (Step 1:) Step 2: (Step 2:) Step 3: (Step 3:)			
3 District heating (3 District heating)	1 Start District heat (1 Start District heat) Hysteresis (Hysteresis) Delay (Delay) Actual v.: (Actual v.:)	3K 180° min Display, can be changed		Z1
	2 Stopp Distr. heat (2 Stopp Distr. heat) Delay (Delay) Actual v.: (Actual v.:)	Display, can be changed		
	3 PID VM0 (3 PID VM0) P: (P:) I: (I:) D: (D:) T0 (T0), Sp: (Sp:), Out: (Out:)	1 100 0 Display		

Setting		Factory	Range	Heat pump
4 Mixed/Modulated (4 Mixed/Modulated)	1 Start heat (1 Start heat)			Z1
	Hysteresis (Hysteresis)	3 K		
	Delay (Delay)	180 ° min		
	Actual v.: (Actual v.:)	Display, can be changed		
	2 Stop heat (2 Stop heat)			
	Delay (Delay)	10 ° min		
	Actual v.: (Actual v.:)	Display, can be chaged		
	3 PID VM0 (3 PID VM0)			
	P: (P:)	1		
	I: (I:)	100		
	D: (D:)	0		
	T0 (T0), Sp: (Sp:), Out: (Out:)	Display		
5 Alarm delay (5 Alarm delay)	1 Alarm delay (1 Alarm delay)			Z1
6 ECO-drive (6 ECO-drive)	1 ECO-drive: (1 ECO-drive:)	No (No)	No (No), Yes (Yes)	Z1
	Start (Start)	22:00	00:00 - 23:59	
	Stop after (Stop after)	6 hr		

Tab. 5 Internal electrical additional heat

Setting		Factory	Range	Heat pump
4 Hot water (4 Hot water)				
1 Hot water type (1 Hot water type)	1 Hot water type: (1 Hot water type:)	No hot water (No hot water)	No hot water (No hot water)	Zx
			Local sensor (Local sensor)	
			Communicated (Communicated)	Not Z1
	2 Temperatures (2 Temperatures)			
	Actual v.: (Actual v.:)	53 °C		
	Start: (Start:)	57 °C		
	Stop: (Stop:)			
	Max temperature: (Max temperature:)			
	3 Compressors (3 Compressors)			
	Auto (Auto)			
	Compressors for DHW: (Compressors for DHW:)			
	Fresh Water Station (Fresh Water Station)	Setpoint: (Setpoint:)		
2 Therm. disinfect. (2 Therm. disinfect.) (1 Hot water type: (1 Hot water type:) = Local sensor (Local sensor)	1 Therm. disinfect. (1 Therm. disinfect.)	No (No)	No (No), Yes (Yes)	Z1
	Day: (Day:)		None (None), Weekday (Weekday), All (All)	
	Start: (Start:)	02:00	00:00 - 23:59	
	Number of steps: (Number of steps:)	1	1, 2, 3	
3 Settings (3 Settings) (1 Hot water type: (1 Hot water type:) = Local sensor (Local sensor)	1 Settings (1 Settings)			Zx
	Alarm setting (Alarm setting)			
	Alarm limit: (Alarm limit:)	45 °C		
	Delay (Delay)	30 min		
	2 Settings (2 Settings)			

Setting		Factory	Range	Heat pump
	Valve: (Valve:) Emergency oper.: (Emergency oper.:) 3 Settings (3 Settings) Monitor T0: (Monitor T0:) Set point-T0 > (Set point-T0 >) Delay (Delay)	External (External) No (No) No (No) 10 K 10 min	External (External), Internal (Internal) No (No), Yes (Yes) No (No), Yes (Yes) No (No), Yes (Yes)	
	4 Settings (4 Settings) Heat protection: (Heat protection:) T0-Set point > (T0-Set point >) T0 increase > (T0 increase >)	No (No) 10 K 15 K	No (No), Yes (Yes)	
4 FWS (4 FWS)	1 Temperature, flow (1 Temperature, flow) TW2 Heat flow (TW2 Heat flow) (°C) TW3 Heat ret. (TW3 Heat ret.) (°C) TW4 DHW flow (TW4 DHW flow) (°C) TW5 Water in (TW5 Water in) (°C) TW6 DHW circ (TW6 DHW circ) (°C) TW7 Cold wate (TW7 Cold wate) (°C) GW0 flow (GW0 flow) (l/min)			Z1
	2 Settings (2 Settings) TW4 flow (TW4 flow) (°C) setpoint (setpoint) (°C) PC4 speed (PC4 speed) (%) GW0 flow (GW0 flow) (l/min) P-const (P-const) (TW4-PC4) I: (I:) (s) D: (D:) (s) Feed-fwd (Feed-fwd) (%) Learnfactor (Learnfactor) (%) TW3 return (TW3 return) (°C) start limit (start limit) (°C) max limit (max limit) (°C) PC4 speed (PC4 speed) (%) Cold limit (Cold limit) (°C) Hot limit (Hot limit) (°C) VW3 pos (VW3 pos)			
	3 Time channel (3 Time channel) 1 DHW circulation (1 DHW circulation) Time channel: (Time channel:) 2 Weekday (2 Weekday) (on and off times) 3 Weekend (3 Weekend) (on and off times) 4 Running hours (4 Running hours) PC4 heating (PC4 heating) (h) PW2 circul. (PW2 circul.) (h)			

Setting		Factory	Range	Heat pump
	4 Energy, flow (4 Energy, flow) GW0 DHW flow (GW0 DHW flow) Actual (Actual) (l/min) DHW flow (DHW flow) (l/min) circul. (circul.) (l/min) DHW flow volume (DHW flow volume) Daily (Daily) (m ³) Weekly (Weekly) (m ³) Acc. (Acc.) (m ³) DHW flow now (DHW flow now) (kW) Daily (Daily) (kWh) Weekly (Weekly) (kWh) Acc. (Acc.) (kWh) Circulation (Circulation) (kW) Acc. (Acc.) (kWh)			
	5 Alarm limits (5 Alarm limits) TW2 heating temp (TW2 heating temp) Max temp (Max temp) (°C) Min temp (Min temp) (°C) Alarm delay (Alarm delay) (min) TW3 return temp (TW3 return temp) Max temp (Max temp) (°C) Alarm delay (Alarm delay) (min) TW4 DHW temp (TW4 DHW temp) Max temp (Max temp) (°C) Min temp (Min temp) (°C) Alarm delay (Alarm delay) (min) TW6 DHW circulation (TW6 DHW circulation) Max temp (Max temp) (°C) Min temp (Min temp) (°C) Alarm delay (Alarm delay) (min)			
	6 Man/Auto (6 Man/Auto) PW2 DHW circul. pump (PW2 DHW circul. pump) Off (Off) On (On) Auto (Auto) PC4 Heating pump (PC4 Heating pump) Manual value: (Manual value:.) (%) Off (Off) Man (Man) VW3 Heat ret. valve (VW3 Heat ret. valve) Off (Off) On (On) Auto (Auto)			

Tab. 6 Hot water

Setting			Factory	Range	Heat pump
6 Accessories (6 Accessories)					
1 Accessories (1 Accessories) Number: (Number:) (0-9) Set unit (Set unit) (>)			0 X	0 - 9	Z1 Z1
	1 Accessory (1 Accessory) x Select function: (Select function:)			Room sensor (Room sensor) Active room sensor (Active room sensor) Fixed sp heating (Fixed sp heating) Own heat curve (Own heat curve) T0 heat curve (T0 heat curve) Fixed sp cooling (Fixed sp cooling) Pool (Pool)	
	2 Room sensor (2 Room sensor) Actual v.: (Actual v.): (°C)				
	2 Active room senso Actual v.: (Actual v.): (°C) Set point: (Set point:) (°C) Average: (Average:) (°C)				
	2 Fixed sp heating (2 Fixed sp heating) Actual v.: (Actual v.): (°C) Set point: (Set point:)(°C) Settings (Settings)	1 Fixed sp heating (1 Fixed sp heating) P: (P:) (%) I: (I:) Y: (Y:) (%) Settings (Settings) Deviation: (Deviation:) (K) Pump: (Pump:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	
	2 Own heat curve (2 Own heat curve) Actual v.: (Actual v.): (°C) Set point: (Set point:) (°C) Settings (Settings)	1 Own heat curve (1 Own heat curve) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 Own heat curve (2 Own heat curve) Deviation: (Deviation:) (K)			

Setting			Factory	Range	Heat pump
		Pump: (Pump:) 3 Own heat curve (3 Own heat curve) RoomTempAccessory: (RoomTempAccessory:) Factor: (Factor:) 4 Own heat curve (4 Own heat curve) Offset mode: (Offset mode:) Offset: (Offset:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	
	2 TO Heat curve (2 TO Heat curve) Actual v.: (Actual v.:) (°C) Offset: (Offset:) Settings (Settings)	1 TO Heat curve (1 TO Heat curve) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 TO Heat curve (2 TO Heat curve) Deviation: (Deviation:) (K) Pump: (Pump:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	
	2 Fixed sp cooling (2 Fixed sp cooling) Actual v.: (Actual v.:) (°C) Set point: (Set point:) (°C) Settings (Settings)	1 Fixed sp cooling (1 Fixed sp cooling) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 Fixed sp cooling (2 Fixed sp cooling) Deviation: (Deviation:) (K) Pump: (Pump:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	
	2 Cooling curve (2 Cooling curve) Actual v.: (Actual v.:) (°C) Set point: (Set point:) (°C) Settings (Settings)	1 Cooling curve (1 Cooling curve) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 Cooling curve (2 Cooling curve) Deviation: (Deviation:) (K) Pump: (Pump:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	

Setting				Factory	Range	Heat pump
		2 Pool (2 Pool) Actual v.: (Actual v.:) (°C) Set point: (Set point:) (°C) Settings (Settings)	1 Pool (1 Pool) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 Pool (2 Pool) Deviation: (Deviation:) (K) Pump: (Pump:)	Off (Off)	Winter (Winter), Summer (Summer), Off (Off), On (On)	
		2 Coolingpower lim. (2 Coolingpower lim.) Actual v.: (Actual v.:) (°C) Set point: (Set point:) (°C) Settings (Settings)	1 Coolingpower lim. (1 Coolingpower lim.) P: (P:) (%) I: (I:) Y: (Y:) (%) 2 Coolingpower lim. (2 Coolingpower lim.) Min limit (Min limit) Di1 function: (Di1 function:)			
		3 Set point curve (3 Set point curve)				
		3 Room temp. infl. (3 Room temp. infl.)	1 Room temp. infl. (1 Room temp. infl.)	0	0-10	

Tab. 7 Accessories

	P-band	I	Deviation
Fixed sp heating (Fixed sp. heating)	30	30	10
Own heat curve (Own heat curve)	30	30	10
T0 Heat curve (T0 heat curve)	30	30	10
Fixed sp cooling (Fixed sp. cooling)	30	30	10
Pool (Pool)	5	2000	10
Coolingpower lim. (Cooling power lim.)	40	100	10

Tab. 8 Recommended settings

Setting		Factory	Range	Heat pump
7 Circulation pumps (7 Circulation pumps)				
1 Settings PC1 (1 Settings PC1)	1 Settings PC1 (1 Settings PC1) Alarm: (Alarm:) Operating mode: (Operating mode:)	SSM (SSM) Automatic (Automatic)	None (None), Oper. reply (Oper. reply), SSM (SSM) Continuous (Continuous), Automatic (Automatic)	Z1
2 Settings PC0 (2 Settings PC0)	1 Settings PC0 (1 Settings PC0) Init speed: (Init speed:) Post speed: (Post speed:) Post time: (Post time:)			Zx
	2 Settings PC0 (2 Settings PC0) Regulating (Regulating) Delta setpoint: (Delta setpoint:)	8 K		
3 Settings PB3 (3 Settings PB3)	1 Settings PB3 (1 Settings PB3) Init speed: (Init speed:) Post time: (Post time:)			Zx
	2 Settings PB3 (2 Settings PB3) Regulating (Regulating) Delta setpoint: (Delta setpoint:)	3 K		
4 Settings PM1/PW2 (4 Settings PM1/PW2)	1 Settings PM1/PW2 (1 Settings PM1/PW2) Pump function: (Pump function:)	None (None)	None (None), Additional Heater (Additional Heater), DHW circulator (DHW circulator)	Zx
	2 Time Channel (2 Time Channel) 1 DHW Circulation (1 DHW Circulation) Time channel: (Time channel:) 2 Weekday (2 Weekday) (on and off times) 3 Weekend (3 Weekend) (on and off times)			

Tab. 9 Circulation pumps

Setting		Factory	Range	Heat pump
8 General alarm (8 General alarm)				
1 General alarm (1 General alarm)		A/B alarm (A/B alarm)	A/B alarm (A/B alarm), A alarm (A alarm)	Zx

Tab. 10 General alarm

Setting		Factory	Range	Heat pump
9 Inversions (9 Inversions)				
1 Digital inputs (1 Digital inputs)	Di1 (Di1) Di2 (Di2) Di3 (Di3) Di4 (Di4)	Normal (Normal) Normal (Normal) Normal (Normal) Normal (Normal)	Normal (Normal), Inverted (Inverted) Normal (Normal), Inverted (Inverted) Normal (Normal), Inverted (Inverted) Normal (Normal), Inverted (Inverted)	Zx

Setting		Factory	Range	Heat pump
2 Digital outputs (2 Digital outputs)	Do1 (Do1)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	Zx
	Do2 (Do2)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do3 (Do3)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do4 (1 Do4)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do5 (Do5)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do6 (Do6)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do7 (Do7)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	

Tab. 11 Inversions

Setting		Factory	Range	Heat pump
10 Sensors (10 Sensors)				
1 Sensor calibr. (1 Sensor calibr.)	1 Sensor calibration (1 Sensor calibration)			Z1
	T0 (T0)	0.000 K		
	TL1 (TL1)	0.000 K		

Tab. 12 Sensor calibration

Setting		Factory	Range	Heat pump
11 Collector circuit (11 Collector circuit)				
Collector circuit (Collector circuit)	TB0: Low (TB0: Low)	- 5 °C	-8 °C - + 30 °C	Zx
	TB0: High (TB0: High)	30 °C	-8 °C - + 30 °C	
	TB1: Low (TB1: Low)	-8 °C	-8 °C - + 30 °C	
	TB1: High (TB1: High)	15 °C	-8 °C - + 30 °C	

Tab. 13 Collector circuit

Settings		Factory	Range	Heat pump
12 External control (12 External control)				
External input I1 (External input I1) Select function (Select function)		No effect (No effect)	No effect (No effect) Block all (Block all) (EVU1) Block add. heat (Block add. heat) Block compressor (Block compressor) (EVU2) Block hot water (Block hot water) Start comp+add.heat (Start comp+add.heat) Start compressor (Start compressor) (1+2) Start brinepump (Start brinepump) Offset unmixed circ (Offset unmixed circ) Offset mixed circuit (Offset mixed circuit) Powerguard 3step (Powerguard 3step) (On signal from load monitor) Start compressor 1 (Start compressor 1)	Zx

Settings		Factory	Range	Heat pump
External input I1 (External input I1) Activate offset for unmixed circuit (Activate offset for unmixed circuit) Activate offset for mixed circuits (Activate offset for mixed circuits) Brine Pump Speed: (Brine Pump Speed:) (%)				Zx
External input I3 (External input I3) Select function (Select function)		No effect (No effect)	No effect (No effect) Block all (Block all) (EVU1) Block add. heat (Block add. heat) Block compressor (Block compressor) (EVU2) Block hot water (Block hot water) Start comp+add.heat (Start comp+add.heat) Start compressor (Start compressor) (1+2) Start brinepump (Start brinepump) Offset unmixed circ (Offset unmixed circ) Offset mixed circuit (Offset mixed circuit) Powerguard 3step (Powerguard 3step) (On signal from load monitor) Start compressor 2 (Start compressor 2)	Zx
External input I3 (External input I3) Activate offset for unmixed circuit (Activate offset for unmixed circuit) Activate offset for mixed circuits (Activate offset for mixed circuits) Brine Pump Speed: (Brine Pump Speed:) (%)				Zx
External control (External control) Heating only (Heating only)				Zx

Tab. 14 External controls

Settings		Factory	Range	Heat pump
13 Hybrid (13 Hybrid)				
Hybrid control (Hybrid control)	Heating: (Heating:) DHW: (DHW:)			Zx
Hybrid control (Hybrid control)	Energy prices (Energy prices) Electricity: (Electricity:) Add.Heat: (Add.Heat:)			Zx

Tab. 15 Hybrid

4 Commissioning Zx

Information about heat pump Z__	
Heat pump:	Serial number:
Date of manufacture:	
Unscrew the transport locks and visually inspect the heat pump:	
Check fuses and electrical connections:	
Switch on the supply voltage to the heat pump:	
Circulation pump heating circuit PC0 (54-80 kW):	
Circulation pump collector circuit PB3 (54-80 kW):	
Enable the fuse and check the heat carrier pump PC0 and collector circuit pump PB3:	
Set the control unit as per the installation table:	
Set the control unit as per the accessory table:	
Function test of all inputs/outputs:	
Other:	

Tab. 16 Commissioning protocol

Set the control unit as per installation tables below. Write down/delete under selected values in column **Range** in the tables. For more information concerning the settings during the installation, refer to Installation Manual for the heat pump.



Always set Z1 first. Most settings are made here because, for example, additional heat and accessories are connected to this heat pump. The settings in Z1 also affect other heat pumps.

Settings	Factory	Range	Heat pump
1 Addressing (1 Addressing)			
Heat pumps (Heat pumps)			
This HP: (This HP:)	Z1	Z1-Z5	Zx
Number: (Number:)	1	1-5	Z1

Tab. 17 Addressing

Setting	Factory	Range	Heat pump
2 Room temperature (2 Room temperature)			
5 Hysteresis (5 Hysteresis)	1 Hysteresis 1 (1 Hysteresis 1)		Zx
	Max (Max)	Display K	
	Min (Min)	Display K	
	Time factor (Time factor)		
	2 Hysteresis 2 (2 Hysteresis 2)		
	Max (Max)	Display K	
	Min (Min)	Display K	
	Time factor (Time factor)		
	3 Actual v. compr.1 (3 Actual v. compr.1)	Display K	
	Actual v. compr. 2 (Actual v. compr. 2)	Display K	

Tab. 18 Room temperature

Setting	Factory	Range	Heat pump
4 Hot water (4 Hot water)			
1 Hot water type (1 Hot water type)	1 Hot water type: (1 Hot water type:)	No hot water (No hot water)	No hot water (No hot water)
			Local sensor (Local sensor) Communicated (Communicated)
	2 Temperatures (2 Temperatures)		
	Actual v.: (Actual v.:)	53 °C	
	Start: (Start:)	57 °C	
	Stop: (Stop:)		
	Max temperature: (Max temperature:)		
	3 Compressors (3 Compressors)		

Setting		Factory	Range	Heat pump
3 Settings (3 Settings) (1 Hot water type: (1 Hot water type:) = Local sensor (Local sensor))	Auto (Auto)			
	Compressors for DHW: (Compressors for DHW:)			
	Fresh Water Station (Fresh Water Station)	Setpoint: (Setpoint:)		
	1 Settings (1 Settings)			Zx
	Alarm setting (Alarm setting)			
	Alarm limit: (Alarm limit:)	45 °C		
	Delay (Delay)	30 min		
	2 Settings (2 Settings)			
	Valve: (Valve:)	External (External)	External (External), Internal (Internal)	
	Emergency oper.: (Emergency oper.:)	No (No)	No (No), Yes (Yes)	
	3 Settings (3 Settings)			
	Monitor T0: (Monitor T0:)	No (No)	No (No), Yes (Yes)	
	Set point-T0 > (Set point-T0 >)	10 K		
	Delay (Delay)	10 min		
	4 Settings (4 Settings)			
	Heat protection: (Heat protection:)	No (No)	No (No), Yes (Yes)	
	T0-Set point > (T0-Set point >)	10 K		
	T0 increase > (T0 increase >)	15 K		

Tab. 19 Hot water

Setting		Factory	Range	Heat pump
7 Circulation pumps (7 Circulation pumps)				
2 Settings PC0 (2 Settings PC0)	1 Settings PC0 (1 Settings PC0)			Zx
	Init speed: (Init speed:)			
	Post speed: (Post speed:)			
	Post time: (Post time:)			
	2 Settings PC0 (2 Settings PC0)			Zx
	Regulating (Regulating)	8 K		
	Delta setpoint: (Delta setpoint:)			
3 Settings PB3 (3 Settings PB3)	1 Settings PB3 (1 Settings PB3)			Zx
	Init speed: (Init speed:)			
	Post time: (Post time:)			
	2 Settings PB3 (2 Settings PB3)			Zx
	Regulating (Regulating)	3 K		
	Delta setpoint: (Delta setpoint:)			
4 Settings PM1/PW2 (4 Settings PM1/PW2)	1 Settings PM1/PW2 (1 Settings PM1/PW2)			Zx
	Pump function: (Pump function:)	None (None)	None (None), Additional Heater (Additional Heater), DHW circulator (DHW circulator)	
	2 Time Channel (2 Time Channel)			
	1 DHW Circulation (1 DHW Circulation)			
	Time channel: (Time channel:)			
	2 Weekday (2 Weekday) (on and off times)			
	3 Weekend (3 Weekend) (on and off times)			

Tab. 20 Circulation pumps

Setting		Factory	Range	Heat pump
8 General alarm (8 General alarm)				
1 General alarm (1 General alarm)		A/B alarm (A/B alarm)	A/B alarm (A/B alarm), A alarm (A alarm)	Zx

Tab. 21 General alarm

Setting		Factory	Range	Heat pump
9 Inversions (9 Inversions)				
1 Digital inputs (1 Digital inputs)	Di1 (Di1)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	Zx
	Di2 (Di2)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Di3 (Di3)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Di4 (Di4)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
2 Digital outputs (2 Digital outputs)	Do1 (Do1)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	Zx
	Do2 (Do2)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do3 (Do3)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do4 (1 Do4)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do5 (Do5)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do6 (Do6)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	
	Do7 (Do7)	Normal (Normal)	Normal (Normal), Inverted (Inverted)	

Tab. 22 Inversions

Setting		Factory	Range	Heat pump
10 Sensors (10 Sensors)				
1 Sensor calibr. (1 Sensor calibr.)	1 Sensor calibration (1 Sensor calibration) T0 (T0) TL1 (TL1)	0.000 K 0.000 K		Z1

Tab. 23 Sensor calibration

Setting		Factory	Range	Heat pump
11 Collector circuit (11 Collector circuit)				
Collector circuit (Collector circuit)	TB0: Low (TB0: Low)	- 5 °C	-8 °C - + 30 °C	Zx
	TB0: High (TB0: High)	30 °C	-8 °C - + 30 °C	
	TB1: Low (TB1: Low)	-8 °C	-8 °C - + 30 °C	
	TB1: High (TB1: High)	15 °C	-8 °C - + 30 °C	

Tab. 24 Collector circuit

Settings		Factory	Range	Heat pump
12 External control (12 External control)				
External input I1 (External input I1) Select function (Select function)		No effect (No effect)	No effect (No effect) Block all (Block all) (EVU1) Block add. heat (Block add. heat) Block compressor (Block compressor) (EVU2) Block hot water (Block hot water) Start comp+add.heat (Start comp+add.heat) Start compressor (Start compressor) (1+2) Start brinepump (Start brinepump) Offset unmixed circ (Offset unmixed circ) Offset mixed circuit (Offset mixed circuit) Powerguard 3step (Powerguard 3step) (On signal from load monitor) Start compressor 1 (Start compressor 1)	Zx
External input I1 (External input I1) Activate offset for unmixed circuit (Activate offset for unmixed circuit) Activate offset for mixed circuits (Activate offset for mixed circuits) Brine Pump Speed: (Brine Pump Speed:) (%)				Zx
External input I3 (External input I3) Select function (Select function)		No effect (No effect)	No effect (No effect) Block all (Block all) (EVU1) Block add. heat (Block add. heat) Block compressor (Block compressor) (EVU2) Block hot water (Block hot water) Start comp+add.heat (Start comp+add.heat) Start compressor (Start compressor) (1+2) Start brinepump (Start brinepump) Offset unmixed circ (Offset unmixed circ) Offset mixed circuit (Offset mixed circuit) Powerguard 3step (Powerguard 3step) (On signal from load monitor) Start compressor 2 (Start compressor 2)	Zx
External input I3 (External input I3) Activate offset for unmixed circuit (Activate offset for unmixed circuit) Activate offset for mixed circuits (Activate offset for mixed circuits) Brine Pump Speed: (Brine Pump Speed:) (%)				Zx
External control (External control) Heating only (Heating only)				Zx

Tab. 25 External controls

Settings		Factory	Range	Heat pump
13 Hybrid (13 Hybrid)				
Hybrid control (Hybrid control)	Heating: (Heating:) DHW: (DHW:)			Zx
Hybrid control (Hybrid control)	Energy prices (Energy prices) Electricity: (Electricity:) Add.Heat: (Add.Heat:)			Zx

Tab. 26 Hybrid







