VIADRUS

HMI (ACX84.910/ALG)
Service unit for Saphir regulator operation

Table of contents:

1. Brief description

HMI (ACX84.910/ALG) service unit is destined for control of VIADRUS HERCULES DUO boiler with Saphir regulator. HMI service unit can either be used separately or in combination with QAA 88 space device see chap.no.3 Configuration). HMI service unit cannot be used as the space device.

Tab. no.1   Technical data

Supply	Operating voltage	DC 12 V (supply from Saphir regulator)
	Rated current	Max. 50 mA
Connection	Connecting cable	JST 4-four-wire
	Cable length	3 m (max. 15 m without reinforcement)
Interface	Serial interface	8-eight-wire, socket RJ45
Protection	Protection class according to EN 60529	IP 50 as unit for manual operation
Ambient conditions	Temperature range: - Operation - Storage	 -10 … 50 ^{o}C -30 … 70 ^{o}C
Industrial standards	Resistance	EN 61000-4-2
Dimensions	Casing	99,3 x 153,5 x 23 mm
	LCD display: - Visible surface - Active surface	 70 x 45 mm 61 x 39 mm
General data	Casing: - Weight - Colour	 0,124 pc Anthracite, RAL 7016
	LCD – display: - Image - Latin characters - Resolution	 8 lines, 20 characters in line 128 x 80 points

2. Positioning and connection to Saphir regulator

Position

A suitable position of HMI service unit is on the front side of VIADRUS HERCULES DUO boiler fuel reservoir. Magnet installed at the unit backside belongs to HMI service unit.

ATTENTION!

With regard to device operating temperatures do not position HMI service unit on the front parts of the boiler shell.

Connection to Saphir regulator

The connecting cable with the mains connector belongs to the service unit. Ii is FORBIDDEN to prolong or shorten the cable.

HMI service unit connection to Saphir regulator:

- Disconnect the boiler from the electricity supply.
- Demount the cover of service board that is fixed with four screws.
- Cut through reasonably the cable padding ABB for mains connector of HMI device.
- Pull the cable with mains connector through the cable padding ABB and connect to the input for mains connector on Saphir regulator
- Mount the cover of service board.
- Connect the boiler to the electricity supply.

3. Service elements

1 – LCD display
2 – Home key
3 – Backspace key
4 – Key of time programs
5 – Key of faults display with LED-diode
6 – Line selection keys (▲/▼)
7 – Setting key
8 – Enter key

Fig.no.1   Service elements of HMI unit for Saphir regulator control

Service element (key)		Function description
Image	**name**	
🏠	Home key	Return to original page
↑	Backspace key	Cursor moved back by one menu
%/	Schedule key	The schedules selection is displayed
🔔	Key of faults display with LED-diode	Image and alarm acknowledgement
▲/▼	Line selection keys (▲/▼)	Selection of menu/parameters/lines
±/	Set key	Setpoint values (+/-) Cursor horizontal control (◄/►)
ENTER	Enter key	Confirmation of the set value

4. Configuration

4.1 Pump heating circuit - configuration

Boiler equipment	*Type of control*
Necessary boiler accessories	

Note:
The equitherm control at the pump heating circuit is possible within the limits from minimum set boiler temperature to maximum set temperature of the heating circuit.

- QAA 88 Device– space unit - HMI service unit for (ACX84.910/ALG) Saphir regulator control – only by request - QAC34/101 External sensor - Thermostatic valve (Filling valve) – series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 $^\circ$C) (ord.code 5100 15 00) - Three-way valve V4044C (only in case the boiler is used for Dhw heating) - QAZ36 Hot water sensor(only in case the boiler is used for Dhw heating)	**Equitherm control with the space effect**

- QAA 88 Device– space unit - HMI service unit for (ACX84.910/ALG) Saphir regulator control – only by request - QAC34/101 External sensor – isn't used - Thermostatic valve (Filling valve) - series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 $^\circ$C) (ord.code 5100 15 00) - Three-way valve V4044C (only in case the boiler is used for Dhw heating) - QAZ36 Hot water sensor(only in case the boiler is used for Dhw heating)	**Space control**

- HMI service unit for (ACX84.910/ALG) Saphir regulator control – only by request - QAC34/101 External sensor - Thermostatic valve (Filling valve) - series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 $^\circ$C) (ord.code 5100 15 00) - Three-way valve V4044C (only in case the boiler is used for Dhw heating) - QAZ36 Hot water sensor (only in case the boiler is used for Dhw heating)	**Equitherm control without the space effect**

4.2 Mixing heating circuit - configuration

Boiler equipment	Type of control
Necessary boiler accessories	

- QAA 88 Device– space unit - HMI service unit for (ACX84.910/ALG) Saphir regulator control – only by request - QAC34/101 External sensor - Thermostatic valve (Filling valve) - series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 ^{o}C) (vol.code5100 15 00)	**Equitherm control with the space effect**
- Three-way mixing valve VBI31.20 with drive SQK34.00 - Sensor of QAD36/101 heating branch - Water heater thermostat type: 7K1.6R326.00A (only in case the boiler is used for Dhw heating)	

- QAA 88 Device– space unit - HMI service unit for (ACX84.910/ALG) Saphir regulator control– only by request - QAC34/101 External sensor – isn't used - Thermostatic valve (Filling valve) - series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 ^{o}C) (vol.code5100 15 00)	**Space control**
- Three-way mixing valve VBI31.20 with driveSQK34.00 - Sensor of QAD36/101 heating branch - Water heater thermostat type: 7K1.6R326.00A (only in case the boiler is used for Dhw heating)	

- HMI service unit for (ACX84.910/ALG) Saphir regulator control – only by request - External sensorQAC34/101 - Thermostatic valve (Filling valve) - series VTC312 (external thread) supplied by ESBE (minimum temperature of return water 45 ^{o}C) (vol.code5100 15 00)	**Equitherm control without the space effect**
- Three-way mixing valve VBI31.20 with drive SQK34.00 - Sensor of QAD36/101 heating branch - Water heater thermostat type: 7K1.6R326.00A (only in case the boiler is used for Dhw heating)	

5.   Structure

Through menu (original page) and other submenus you will get to the names of parameters or directly to the setting lines.

All lines on the HMI service unit display are not always displayed at once (depending on the display possibilities). You will get to other lines by means of the key for lines selection (▲/▼).

The cursor is displayed on the first line that can be changed (e.g. on Boiler Menu line in case of the original page) and then always on each of next lines enabling the change.

5.1   Structure – pump heating circuit

The original page of HMI service unit for Saphir regulator control.

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
14.10.2009	12:37	z	+			
OutsideTemp	-1,0 ^{o}C	z	z	-20 … 50	0,1	P 1
BoilerTemp	57,0 ^{o}C	z	z	5 … 100	0,1	P 2
FeederTemp	24,2 ^{o}C	z	z	5 … 100	0,1	P 8
RoomTemp	22,0 ^{o}C	z	z	0 … 40	0,1	P 9
DhwTemp	55,0 ^{o}C	z	z	5 … 100	0,1	P 5
DhwDemand	75,0 ^{o}C	z	z	15 … 75	1	P 6
/Menu Boiler		►	►			
/Menu Heating		►	►			
/Menu D.HotWater		►	►			
Password Function		►	►			
/TimeScheduler		►	►			

Explanatory notes:
z   imaging parameter(the indicated value cannot be changed)
+   the parameter value can be changed
Htg   central heating = heating circuit
Dhw   warm water
►   step into the second level (by keystroke Enter)
►►   step into the third level (by keystroke Enter)
►►►   step into the fourth level (by keystroke Enter)

Note: Text descriptions of individual parameters correspond to the image on HMI unit display.

Password entry is described separately in chapter no. 7.2 Passwords (it is necessary for the change of parameters in the column Parameter with password indicated by symbol +).

MENU BOILER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Boiler/						
BoilerState	*On*	+	+	Off/On		
/Feeder	*Off*	►►	►►	Off/On		
/Fan	*100%*	►►	►►	0 … 100		
/Pump	*On*	►►	►►	Off/On		
HtgDmnd	*78,8 ^{o}C*	z	z	0 … 80	0,1	P 4
DhwDmnd	*75,0 ^{o}C*	z	z	15 … 75	1	P 6
ActualDmnd	*78,8 ^{o}C*	z	z	20 … 85	0,1	P 11
BoilerLowTemp	*PASS*	z	z	PASS/ACTI		
SetLowTemp	*40 ^{o}C*	+	+	10 … 60	1	
SetLowTmpDly	*30 min*	+	+	10 … 60	1	P 27
DmndMode	*Auto*	z	+	Auto/Fixed		P 24
FixDemand	*70 ^{o}C*	z	+	50 … 85	1	
MinBoilerTemp	*50 ^{o}C*	z	+	20 … 70	1	P 23
BoilerHyst	*3 ^{o}C*	z	+	1 … 5	0,1	P 25

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Feeder/						
Feeder	*On*	z	z	Off/On		
FuelType	*BrownC*	+	+	BrownC BlackC Pellet Wood		P 20
FeederRunTime	*5,0s*	+	+	5 … 10	0,1	P 140
HandCmndDly	*6min*	+	+	1 … 10	1	
/CurveBrownCoal		►►►	►►►			
/CurveBlackCoal		►►►	►►►			
/CurvePellet		►►►	►►►			
FeederFire	*PASS*	z	z	PASS/ACTI		
InFireFdrRun	*20s*	z	+	10 … 30	1	
InFireFdrStop	*10s*	z	+	5 … 15	1	
FeederMaxTemp	*90 ^{o}C*	z	+	85 … 95	1	P 26

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBrownCoal						
0%	*65s*	+	+	55 … 75	1	P 151
33%	*38s*	+	+	28 … 48	1	P 153
66%	*26s*	+	+	21 … 31	1	P 155
100%	*20s*	+	+	15 … 25	1	P 157
FdrStandByRun	*5s*	+	+	3 … 10	1	P 158
FdrStandByStop	*40min*	+	+	10 … 240	1	P 159

8

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBlackCoal						
0%	90s	+	+	80 … 99	1	P 171
33%	42s	+	+	32 … 52	1	P 173
66%	32s	+	+	27 … 37	1	P 175
100%	27s	+	+	23 … 33	1	P 177
FdrStandByRun	5s	+	+	3 … 10	1	P 178
FdrStandByStop	40min	+	+	10 … 240	1	P 179

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurvePellet						
0%	60s	+	+	50 … 70	1	P 211
33%	29s	+	+	19 … 39	1	P 213
66%	16s	+	+	11 … 21	1	P 215
100%	10s	+	+	5 … 15	1	P 217
FdrStandByRun	15s	+	+	13 … 20	1	P 218
FdrStandByStop	10min	+	+	5 … 15	1	P 219

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/MenuFan/						
Fan	33,0%	z	z	0 … 100	0,1	P 12
HandCmndDly	15min	+	+	1 … 30	1	
HandCmndPower	50%	+	+	1 … 100	1	P 22
/CurveBrownCoal		►►►	►►►			
/CurveBlackCoal		►►►	►►►			
/CurvePellet		►►►	►►►			

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBrownCoal						
0%	30%	+	+	25 … 35	1	P 161
33%	35%	+	+	30 … 40	1	P 163
66%	48%	+	+	43 … 58	1	P 165
100%	50%	+	+	45 … 60	1	P 167
FanStByDly	30s	+	+	5 … 120	1	P 168
FanStByPower	100%	+	+	50 … 100	1	P 169

9

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBlackCoal						
0%	28%	+	+	23 … 33	1	P 201
33%	34%	+	+	29 … 39	1	P 203
66%	70%	+	+	65 … 75	1	P 205
100%	75%	+	+	70 … 80	1	P 207
FanStByDly	30s	+	+	5 … 120	1	P 208
FanStByPower	100%	+	+	50 … 100	1	P 209

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurvePellet						
0%	8%	+	+	6 … 13	1	P 221
33%	16%	+	+	11 … 21	1	P 223
66%	36%	+	+	31 … 41	1	P 225
100%	46%	+	+	41 … 51	1	P 227
FanStByDly	3s	+	+	1 … 60	1	P 228
FanStByPower	100%	+	+	50 … 100	1	P 229

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/BoilerPump						
Pump	On	z	+	Off/On		P 51
HandAcces	Auto	z	+	Man/Auto		P 50
PumpStartTemp	55 ^{o}C	+	+	20 … 60	1	P 53
OverRun	5min	+	+	0 … 60	1	P 52
PumpKickDay	Fr	+	+	Mo … Su/ All/Off		P 54

MENU HEATING

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Heating/						
Heating	On	+	+	Off/On		P 40
ActlSetpoint	73,8 °C	z	z	0 … 80	0,1	P 4
HtgStptAdd	5 °C	+	+	0 … 20	1	P 41
/HtgSettings		►►	►►			

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgSettings/						
HtgCurveSlope	1,5	+	+	0,1 … 4	0,1	P 21
CurveShift	0 °C	+	+	-10 … 10	1	P 19
HtgMaxTemp	80 °C	z	+	30 … 90	1	P 77
HtgMinTemp	30 °C	z	+	20 … 50	1	P 76
BuildingConst	10Hrs	z	+	1 … 50	1	P 80
S/W Const	50Hrs	z	+	1 … 100	1	P 84
S/W Temp	17 °C	z	+	8 … 35	0,1	P 83
S/W Switch	PASS	z	z	PASS/ACTI		P 85
EcoTemp	-3 °C	z	+	-5 … 5	1	P 81
EcoSwitch	PASS	z	z	PASS/ACTI		P 82
RoomHyst	0,5 °C	z	+	0 … 5	0,1	P 71
RoomSwitch	PASS	z	z	PASS/ACTI		
RoomFactor	20%	+	+	0 … 100	1	P 72
HtgBrakeUp	99K/min	z	+	10 … 99	1	
HtgBrakeDown	99K/min	z	+	10 … 99	1	
OutTemp	-1,0 °C	z	z	-20 … 50	0,1	P 1
DampOutTemp	-1,0 °C	z	z	-20 … 50	0,1	
AverOutTemp	-1,0 °C	z	z	-20 … 50	0,1	
ResetOutTemp	Passive	+	+	Active/ Passive		P 70
HtgSystem	Hevy	z	+	Floor/Convect/ Plate/Hevy		P 86

MENU D. HOT WATER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/DomesticHotWater/						
Preparation	On	+	+	Off/On		P 42
DhwTemp	55,0 ^{o}C	z	z	5 … 100	0,1	P 5
ActlSetpoint	75 ^{o}C	z	z	0 … 75	1	P 6
DhwStptAdd	15 ^{o}C	+	+	5 … 20	1	P 43
/DhwValve	Active	►►	►►	Active/ Passive		
ForceOutletToDhw	No	z	+	Yes/No		
HystereseDHW	4 ^{o}C	z	+	1 … 10	1	P 130

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu DHW Valve/						
Position	On	z	+	Off/On		P 66
UserAccess	Auto	z	+	Man/Auto		P 65
ValveOverRun	3min	z	+	0 … 10	1	P 67

PASSWORD FUNCTION

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
-Enter Password -						
****						

TIME SCHEDULER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Time scheduler/						
/Htg Scheduler		►►	►►			
/Dhw Scheduler		►►	►►			

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgTimeSchedule/						
ReduceTemp	19,0 °C	+	+	5 … 25	0,1	P 111
SelectDay	All	+	+	Mo … Su/All		P 100
Periode 1						
06:00 22:00 21,0 °C		+	+	00:00…23:59 10 … 30	1 min 0,1	P 101 P 102 P 103
Periode 2						
23:59 23:59 21,0 °C		+	+	00:00 …23:59 10 … 30	1 min 0,1	P 104 P 105 P 106
Periode 3						
23:59 23:59 20,0 °C		+	+	00:00 …23:59 10 … 30	1 min 0,1	P 107 P 108 P 109
ResetPlan	Passive	+	+	Active/Passive		P 110

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/DhwTimeSchedule/						
SelectDay		+	+	Mo … Su/ All		P 120
Periode 1						
06:00 22:00 60 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 121, P 122, P 123
Periode 2						
23:59 23:59 55 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 124, P 125, P 126
Periode 3						
23:59 23:59 50 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 127, P 128, P 129
ResetPlan	Passive	+	+	Active/Passive		P 131

5.2 Structure – mixing heating circuit

Original starting page of HMI service unit for Saphir regulator control

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
14.10.2009	*12:37*	z	+			
OutsideTemp	*-1,0 °C*	z	z	-20 … 50	0,1	P 1
BoilerTemp	*57,0 °C*	z	z	5 … 100	0,1	P 2
FeederTemp	*24,2 °C*	z	z	5 … 100	0,1	P 8
RoomTemp	*22,0 °C*	z	z	0 … 40	0,1	P 9
HeatingTemp	*52,0 °C*	z	z	5 … 100	0,1	P 3
DhwDemand	*75,0 °C*	z	z	15 … 75	1	P 6
/Menu Boiler		►	►			
/Menu Heating		►	►			
/Menu D.HotWater		►	►			
Password Function		►	►			
/TimeScheduler		►	►			

Explanatory notes:

z	imaging parameter(the indicated value cannot be changed)
+	parameter value can be changed
Htg	central heating = heating circuit
Dhw	warm water
►	step into the second level (by keystroke Enter)
►►	step into the third level (by keystroke Enter)
►►►	step into the fourth level (by keystroke Enter)

Note: Text descriptions of individual parameters correspond to the image on HMI unit display.

MENU BOILER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Boiler/						
BoilerState	*On*	+	+	Off/On		
/Feeder	*Off*	►►	►►	Off/On		
/Fan	*100%*	►►	►►	0 … 100		
/Pump	*On*	►►	►►	Off/On		
HtgDmnd	*78,8 ºC*	z	z	0 … 80	0,1	P 4
DhwDmnd	*75,0 ºC*	z	z	15 … 75	1	P 6
ActualDmnd	*78,8 ºC*	z	z	20 … 85	0,1	P 11
BoilerLowTemp	*PASS*	z	z	PASS/ACTI		
SetLowTemp	*40 ºC*	+	+	10 … 60	1	
SetLowTmpDly	*30 min*	+	+	10 … 60	1	P 27
DmndMode	*Auto*	z	+	Auto/Fixed		P 24
FixDemand	*70 ºC*	z	+	50 … 85	1	
MinBoilerTemp	*50 ºC*	z	+	20 … 70	1	P 23
BoilerHyst	*3 ºC*	z	+	1 … 5	0,1	P 25

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Feeder/						
Feeder	*On*	z	z	Off/On		
FuelType	*BrownC*	+	+	BrownC BlackC Pellet Wood		P 20
FeederRunTime	*5,0s*	+	+	5 … 10	0,1	P 140
HandCmndDly	*6min*	+	+	1 … 10	1	
/CurveBrownCoal		►►►	►►►			
/CurveBlackCoal		►►►	►►►			
/CurvePellet		►►►	►►►			
FeederFire	*PASS*	z	z	PASS/ACTI		
InFireFdrRun	*20s*	z	+	10 … 30	1	
InFireFdrStop	*10s*	z	+	5 … 15	1	
FeederMaxTemp	*90 ºC*	z	+	85 … 95	1	P 26

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBrownCoal						
0%	*65s*	+	+	55 … 75	1	P 151
33%	*38s*	+	+	28 … 48	1	P 153
66%	*26s*	+	+	21 … 31	1	P 155
100%	*20s*	+	+	15 … 25	1	P 157
FdrStandByRun	*5s*	+	+	3 … 10	1	P 158
FdrStandByStop	*40min*	+	+	10 … 240	1	P 159

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBlackCoal						
0%	*90s*	+	+	80 … 99	1	P 171
33%	*42s*	+	+	32 … 52	1	P 173
66%	*32s*	+	+	27 … 37	1	P 175
100%	*27s*	+	+	23 … 33	1	P 177
FdrStandByRun	*5s*	+	+	3 … 10	1	P 178
FdrStandByStop	*40min*	+	+	10 … 240	1	P 179

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurvePellet						
0%	*60s*	+	+	50 … 70	1	P 211
33%	*29s*	+	+	19 … 39	1	P 213
66%	*16s*	+	+	11 … 21	1	P 215
100%	*10s*	+	+	5 … 15	1	P 217
FdrStandByRun	*15s*	+	+	13 … 20	1	P 218
FdrStandByStop	*10min*	+	+	5 … 15	1	P 219

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/MenuFan/						
Fan	*33,0%*	z	z	0 … 100	0,1	P 12
HandCmndDly	*15min*	+	+	1 … 30	1	
HandCmndPower	*50%*	+	+	1 … 100	1	P 22
/CurveBrownCoal		►►►	►►►			
/CurveBlackCoal		►►►	►►►			
/CurvePellet		►►►	►►►			

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBrownCoal						
0%	*30%*	+	+	25 … 35	1	P 161
33%	*35%*	+	+	30 … 40	1	P 163
66%	*48%*	+	+	43 … 58	1	P 165
100%	*50%*	+	+	45 … 60	1	P 167
FanStByDly	*30s*	+	+	5 … 120	1	P 168
FanStByPower	*100%*	+	+	50 … 100	1	P 169

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurveBlackCoal						
0%	28%	+	+	23 … 33	1	P 201
33%	34%	+	+	29 … 39	1	P 203
66%	70%	+	+	65 … 75	1	P 205
100%	75%	+	+	70 … 80	1	P 207
FanStByDly	30s	+	+	5 … 120	1	P 208
FanStByPower	100%	+	+	50 … 100	1	P 209

►►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/CurvePellet						
0%	8%	+	+	6 … 13	1	P 221
33%	16%	+	+	11 … 21	1	P 223
66%	36%	+	+	31 … 41	1	P 225
100%	46%	+	+	41 … 51	1	P 227
FanStByDly	3s	+	+	1 … 60	1	P 228
FanStByPower	100%	+	+	50 … 100	1	P 229

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/BoilerPump						
Pump	On	z	+	Off/On		P 51
HandAcces	Auto	z	+	Man/Auto		P 50
PumpStartTemp	55 ^{o}C	+	+	20 … 60	1	P 53
OverRun	5min	+	+	0 … 60	1	P 52
PumpKickDay	Fr	+	+	Mo … Su/ All/Off		P 54

MENU HEATING

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Menu Heating/						
Heating	On	+	+	Off/On		P 40
HeatingTemp	52,0 ^{o}C	z	z	5 … 100	0,1	P 3
ActlSetpoint	55 ^{o}C	z	z	0 … 80	0,1	P 4
HtgStptAdd	5 ^{o}C	+	+	0 … 20	1	P 41
/HtgSettings		►►	►►			
/HtgPump	On	►►	►►	Off/On		
/HtgValve	100,0%	►►	►►	0 … 100		

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgSettings/						
HtgCurveSlope	1,5	+	+	0,1 … 4	0,1	P 21
CurveShift	0 °C	+	+	-10 … 10	1	P 19
HtgMaxTemp	80 °C	z	+	30 … 90	1	P 77
HtgMinTemp	30 °C	z	+	20 … 50	1	P 76
BuildingConst	10Hrs	z	+	1 … 50	1	P 80
S/W Const	50Hrs	z	+	1 … 100	1	P 84
S/W Temp	17 °C	z	+	8 … 35	0,1	P 83
S/W Switch	PASS	z	z	PASS/ACTI		P 85
EcoTemp	-3 °C	z	+	-5 … 5	1	P 81
EcoSwitch	PASS	z	z	PASS/ACTI		P 82
RoomHyst	0,5 °C	z	+	0 … 5	0,1	P 71
RoomSwitch	PASS	z	z	PASS/ACTI		
RoomFactor	20%	+	+	0 … 100	1	P 72
HtgBrakeUp	99K/min	z	+	10 … 99	1	
HtgBrakeDown	99K/min	z	+	10 … 99	1	
OutTemp	-1,0 °C	z	z	-20 … 50	0,1	P 1
DampOutTemp	-1,0 °C	z	z	-20 … 50	0,1	
AverOutTemp	-1,0 °C	z	z	-20 … 50	0,1	
ResetOutTemp	Passive	+	+	Active/ Passive		P 70
HtgSystem	Hevy	z	+	Floor/Convect/ Plate/Hevy		P 86

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgPump/						
Pump	On	z	+	Off/On		P 56
HandAccess	Auto	z	+	Man/Auto		P 55
FrostProtect	Active	+	+	Active/ Passive		P 87
OverRun	3min	+	+	0 … 60	1	P 57
PumpKickDay	Fr	+	+	Mo … Su/ All/Off		P 58

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgValve/						
ServoTime	120s	z	+	10 … 1800	1	P 88

MENU D. HOT WATER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/DomesticHotWater/						
Preparation	On	+	+	Off/On		P 42
DhwTemp	Active	z	z	Active/ Passive		
ActlSetpoint	75 ^{o}C	z	z	0 … 75	1	P 6
DhwStptAdd	15 ^{o}C	+	+	5 … 20	1	P 43
/DhwPump	Off	►►	►►	Off/On		
ForceOutletToDhw	No	z	+	Yes/No		

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/DhwPump/						
Pump	Off	z	+	Off/On		P 60
HandAccess	Auto	z	+	Man/Auto		P 59
OverRun	3min	+	+	0 … 10	1	P 61
PumpKickDay	Fr	+	+	Mo … Su/ All/Off		P 62

PASSWORD FUNCTION

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
-Enter Password -						
****						

TIME SCHEDULER

►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/Time scheduler/						
/Htg Scheduler		►►	►►			
/Dhw Scheduler		►►	►►			

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/HtgTimeSchedule/						
ReduceTemp	19,0 °C	+	+	5 … 25	0,1	P 111
SelectDay	All	+	+	Mo … Su/All		P 100
Periode 1						
06:00　22:00　21,0 °C		+	+	00:00 …23:59 10 … 30	1 min 0,1	P 101 P 102 P 103
Periode 2						
23:59　23:59　21,0 °C		+	+	00:00 …23:59 10 … 30	1 min 0,1	P 104 P 105 P 106
Periode 3						
23:59　23:59　20,0 °C		+	+	00:00 …23:59 10 … 30	1 min 0,1	P 107 P 108 P 109
ResetPlan	Passive	+	+	Active/Passive		P 110

►►

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
/DhwTimeSchedule/						
SelectDay		+	+	Mo … Su/All		P 120
Periode 1						
06:00　22:00　60 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 121, P 122, P 123
Periode 2						
23:59　23:59　55 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 124, P 125, P 126
Periode 3						
23:59　23:59　50 °C		+	+	00:00 …23:59 10 … 65	1 min 1	P 127, P 128, P 129
ResetPlan	Passive	+	+	Active/Passive		P 131

6. Parameters description

Following description only regards the parameters not included in parameters of QAA 88 device so that they are not described in service and installation manual for VIADRUS HERCULES DUO boiler in the chapter that regards the description of parameters.

Menu Boiler → BoilerState

If we select the value „Off" the requirement for heat is ignored (ventilator and feeder do not run and other control and security elements are active).

Menu Boiler → Feeder

Feeder actual status image.

Menu Boiler → Fan

Ventilator performance actual status image.

Menu Boiler → Pump

Primary pump actual status image

Menu Boiler → BoilerLowTemp

Boiler actual status displayed with regard to low temperature of output water in boiler and link to BoilerLowTemp fault report.

Menu Boiler → SetLowTemp

We set the desired minimum boiler temperature that must be achieved to the set value in SetLowTmpDly parameter.

Menu Boiler → FixDemand

We set the desired minimum boiler temperature in case we select boiler fixed operation.

Menu Boiler → Menu Feeder → Feeder

Feeder actual status image

Menu Boiler → Menu Feeder → HandCmndDly

Setting the feeder runtime when making fire.
Note: Fuel feeder is feeding continually for the period set in this parameter The interruption or repeated feeder putting into operation can be done when making fire by means of two-button station in the service board (two-button station back lighting green – feeder run activation when making fire).

Menu Boiler → Menu Feeder → FeederFire

It is displayed whether the fuel feeder actual temperature is not above the set value of maximum feeder temperature (90 ^{o}C set by manufacturer).

Menu Boiler → Menu Feeder → InFireFdrRun

Setting the feeder runtime if the feeder actual temperature is above the set value of maximum feeder temperature (90 ^{o}C set by manufacturer).

Menu Boiler → Menu Feeder → InFireFdrStop

Setting feeder delay time if the feeder actual temperature is above the set value of maximum feeder temperature (90 ^{o}C set by manufacturer).

Menu Boiler → Menu Fan → HandCmndDly

Setting the ventilator runtime when making fire.
Note: Ventilator runs continually for the period set in this parameter. The interruption or repeated ventilator putting into operation can be done when making fire by means of two-button station in the service board (two-button station back lighting blue- ventilator run activation when making fire)

Menu Heating → HtgSettings → RoomSwitch

Heating blockage image. The desired space temperature incl. the space hysteresis was exceeded.

Menu Heating → HtgSettings → HtgBrakeUp

Setting of temperature start-up limitation.

Menu Heating → HtgSettings → HtgBrakeDown

Setting of temperature slowing-down limitation.

Menu Heating → HtgSettings → DampOutTemp

Displaying the damped (corrected) outside temperature. The desired temperature of the heating circuit is calculated on the basis of this temperature.

Menu Heating → HtgSettings → AverOutTemp

Displaying the average outside temperature. The temperature is averaged according to setting of P 84 – Constant Summer / winter parameter.

Menu Heating → HtgPump

Htg pump actual status image.

Menu Heating → HtgValve

Htg valve opening actual status image

Menu D.HotWater → DhwValve

Dhw three-way valve actual status image.

Menu D.HotWater → ForceOutletToDhw

Setting of superfluous heat withdrawal (90 ^{o}C set by manufacturer) from the boiler to Dhw reservoir

ATTENTION! Setting of value YES is only possible in case the Dhw reservoir construction and connecting pipe material are dimensioned to minimum temperature 90 ^{o}C.

Menu D.HotWater → DhwDemand

Dhw preparation actual status image.

Menu D.HotWater → DhwPump

Dhw pump actual status image.

7. Parameters change

7.1 Parameters change description

The values that are displayed in the black back lighting can be changed. Blinking back lighting indicates the position we inhere in and we can change a given parameter in following way:
- by keystroke Enter the parameter (Fig.no.2) can be changed;
- a given field stops blinking (Fig.no.3);
- by means of set key we change the value;
- we confirm by keystroke Enter (Fig.no.4).

In case we do not want to change a given parameter we continue on the next line by means of line selection key.
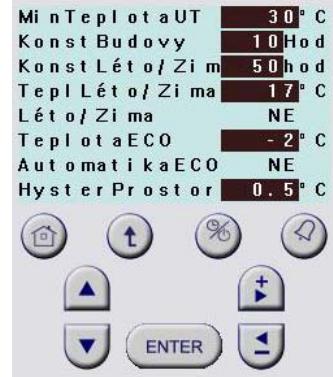
| **Fig.no.2** | **Fig.no.3** | **Fig.no.4** |

If we use HMI service unit in combination with space QAA 88 Device we can change the parameters independently on one or other device. The changes will be stored in both devices.

Parameters that also are in HMI service unit can only be changed in this unit and they are not displayed in QAA 88 device.

7.2 Passwords

Password to level one (end user) is **1111**.

Passwords entry- login:

- By means of line selection keys (▲/▼) select the passwords line on the original page.
- Confirm by keystroke Enter (you will get into second level menu).
- By keystroke Enter activate password entry.
- By means of set key enter the first figure of passwords and confirm by keystroke Enter.
- Repeat these steps until you enter the four-figure password.
- After the entry of the last password figure and confirmation by keystroke Enter you will get to the original page of HMI service unit with the activated password see Fig.no.6. If the HMI service unit display is backlit and the first line of the display can be changed (see Fig.no.6).we know that the password has been entered correctly.
- Now we can change the parameters with password indicated in the structure (chap. no. 5) by symbol +.

The structure of HMI service unit with activated password is accessible 10 minutes (setting by manufacturer) in case no keystroke has occurred.

The structure of HMI service unit with activated password is accessible always 10 minutes (setting by manufacturer) after the last keystroke.

Fig.no.5   Displaying the original page of HMI service unit.
Fig.no.6   Displaying the original page of HMI service unit after the password entry (display is backlit).
Fig.no.7   Displaying the original page of HMI service unit after the password entry with new Service menu image (display is backlit).

| **Fig.no.5** | **Fig.no.6** | **Fig.no.7** |

Original page of HMI service unit after the password entry.

Image on HMI unit display		Parameter		Range	Step	Par. in QAA 88
Description	Example	without password	with password			
14.10.2009	*12:37*	z	+			
OutsideTemp	*-1,0 ^{o}C*	z	z	-20 … 50	0,1	P 1
BoilerTemp	*57,0 ^{o}C*	z	z	5 … 100	0,1	P 2
FeederTemp	*24,2 ^{o}C*	z	z	5 … 100	0,1	P 8
RoomTemp	*22,0 ^{o}C*	z	z	0 … 40	0,1	P 9
HeatingTemp	*52,0 ^{o}C*	z	z	5 … 100	0,1	P 3
DhwDemand	*75,0 ^{o}C*	z	z	15 … 75	1	P 6
/Menu Boiler		►	►			
/Menu Heating		►	►			
/Menu D.HotWater		►	►			
/Service		►	►			
Password Function		►	►			
/TimeScheduler		►	►			

► (/Service)

Image on HMI unit display		Range	Step	Par. in QAA 88
Description	Example			
→Password Function				
LoadFactorySettings	Passive	Passive/ Active		P 235
Language selection	Czech	Czech/ English		
Diagnostics Boiler	0			P 234
Diagnostics Htg	1			P 233
RoomUnitPossition	Room	Room/No/ Boiler		P 28*)

*) **In P 28 parameter of QAA 88 device only the possibility „Boiler" or „Space" can be selected. If the HMI service unit is used separately (without QAA 88 device) select the option "Is not" in the line „Space device".**

24

►► →Password Function

Image on HMI unit display
→Enter password   -
→Close Account ***)
→Change Password

►►►

Image on HMI unit display
-Enter password   -
****   **)

**)   This line serves for password entry to the service level.

***)   By selecting the option „→Logout" by means of line selection keys and by keystroke Enter (confirmation) it comes to the logout and return to original page of HMI service unit without password. Display is not backlit (Fig.no.5).

►►►

Image on HMI unit display
-   Change Password   **-**
Stage: 1
Enter PWD ****   ****)

****)   The end user has option to change the end user's password set by the manufacturer. After the new password has been entered and confirmed by keystroke Enter (the same way as when entering the password) the original password is no more valid. In case you forget the new passwords call the service.

8.   Faults

The fault is signalised by LED-diode blinking on faults image key 🔔 . After pressing the key 🔔 the list of faults is displayed. After the removal of fault press again the key 🔔 and signalling by LED-diode blinking will stop. Then by pressing the key Enter (ENTER) in the list of faults you can display the history of faults.

The fault called LowBoilerTemp must be quitted (unblocked) by pressing the key 🔔 . Other faults are reversible, but they will be signalised by the LED-diode and displayed in history of faults (in the list of faults there can be displayed 0 which means that the reversible fault has been removed (e.g. boiler temperature has been exceeded and then reduced). Here also the faults history signalling must be quitted by pressing the key 🔔 .

From the list or history of faults we come back to the original page by pressing the Home key 🏠 **.**

Image	Sensor	Fault description	Boiler response
BoilerOverTemp	**B2**	Excess of security temperature (max. boiler value)	Boiler operation shutdown. Pump/s are still running. The three-way valve opens and water is drawn off to the heating system.
FeederFire	**B5**	Excess of fuel feeder temperature	Fuel feeding according to the set algorithm so that the burning fuel is transferred again to the burner.
ThermoContact	**Engine thermal protection**	Excess of fuel feeder motor winding temperature	Boiler operation shutdown. The primary pump keeps running. After the winding has cooled down and the boiler thermal protection switched again put again into operation.
LowBoilerTemp	**B2**	Boiler extinction. The outlet temperature in a given time interval does not increase.The absence of fuel, feeder blockage etc. might be the reasons.	Boiler operation shutdown. The protection against fuel fire penetration is active.
TimeValid	**-**	Time validity. If there is absence of voltage on the regulator longer than approx. 7 days then the time (date, time) counting is stopped. It is necessary to set the actual time and date.	The boiler heats to the set temperature in the first period on Monday.
DhwOvrhtMsg	**B3**	Warm water overheating in Dhw reservoir	Dhw heating termination. Three-way valve turns to HC.
HtgOvrhtMsg	**B1**	Excess of heating circuit maximum temperature – 90 ^{o}C.	HC heating and HC pump shutdown .
FAULT REPORTS IN CASE OF SHORT CIRCUIT OR SENSORS DISCONNECTION			
HtgTemp	**B1**	Heating branch temperature	HC heating shutdown
BoilerTemp	**B2**	Boiler outlet temperature	Boiler operation shutdown. The protection against fuel fire penetration is active Primary pump is active.
DhwTemp	**B3**	Dhw reservoir temperature	Dhw heating shutdown
FeederTemp	**B5**	Reservoir feeder temperature	Boiler operation shutdown
OutTemp	**B9**	Outside temperature	Boiler operation at the fixed temperature.
RmUnit	**A6**	Room device	Boiler heats according to the setting in HMI service unit.

VIADRUS