



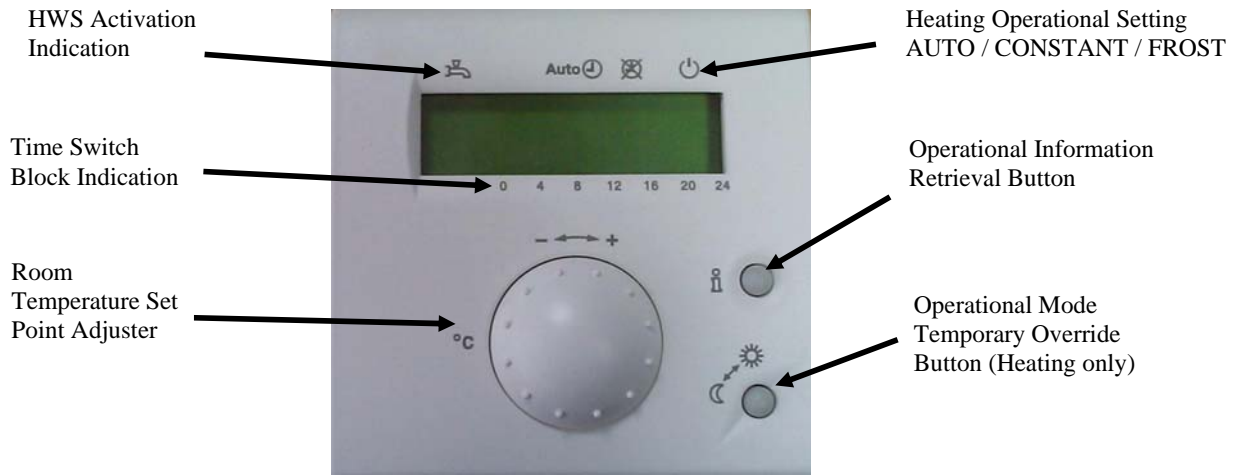
QAA73 (Open Therm) Room Controller Operating Manual

Suitable for use with single boiler installations of
the ProCon range.

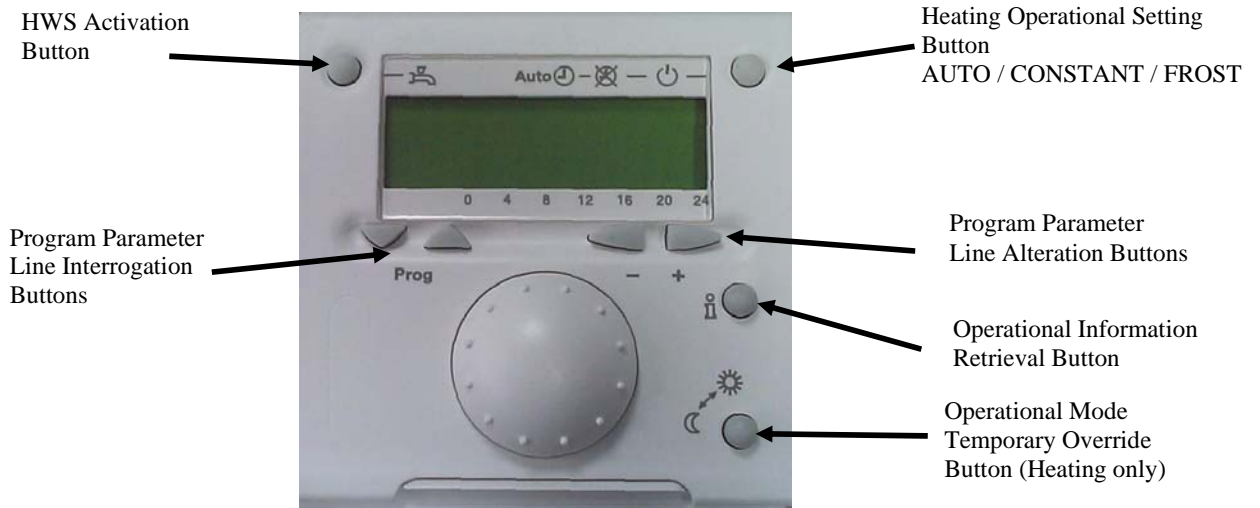
(Models 16H, 16HS, 27H, 27HS, 27S, 47H, 47S, 75H & 77H)



QAA73 Room Control Unit Configuration



Controller Door Closed

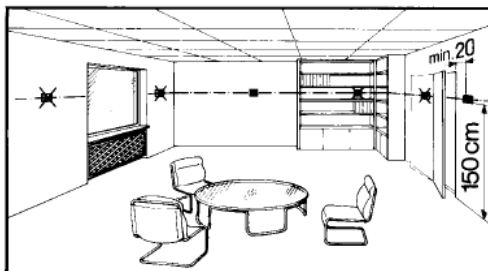


Controller Door Open

Positioning the QAA73

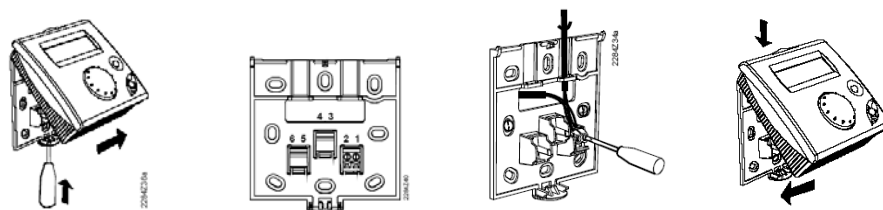
The place of installation should be chosen so that the sensor can capture the room temperature as accurately as possible, without being affected by direct solar radiation or other heating or cooling sources.

- The most desirable mounting height is 1.5 meters above the floor
- The unit can be fitted to most commercially available recessed conduit boxes or directly on the wall.



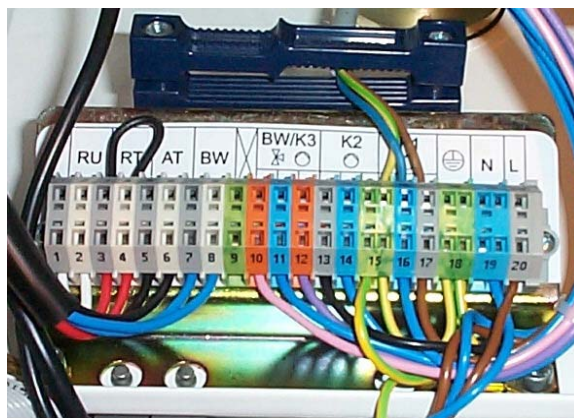
Connecting the QAA73 to the boiler.

Once mounted in the desired position the QAA73 must be wired to the boiler.



Terminals 1 & 2 of the QAA73 controller must be connect to *:

The RU connection of the ProCon 16, 27, 47, 75 & 75 boilers



The connections are not polarity sensitive.

* Screened cable must be used and the routed in accordance with prevailing electrical regulations.

QAA73 Room Unit Parameter Programming Information

The QAA73 has 3 levels of parameter adjustment.

The first level consists of parameters that the end user / customer can access and alter.

The second level consists of parameters that the installing engineer can access and alter.
(Function Protected.)

The third level consists of parameters that the boiler manufacturer (OEM) can access and alter. (Password Protected)

First Level Parameter Investigation and Alteration Procedure.

The first level is accessed by opening the bottom-hinged cover / flap and pressing the ▲ PROG button

The Line #1 will appear on the screen along with the associated parameter

Using the ▲ ▼ PROG button the Line #s can be paged through. (1 – 50)

When a Line # is displayed that requires alteration the + & - buttons must be used.

To leave the first level parameter press the ⓘ INFO button.

The defaults indicated below are for standard systems.

If additional control features are required alterations will have to be made.

Please refer to the complete QAA73 manual for additional details.

-, - -, --- Indicates where an input can be made if required.

Indicates where an input can not be made and a sensed / attenuated figure is displayed. 'OFF' will be displayed if the +/- buttons are used.

Please Note.

If the unit is displaying Non English Text. Line # 47 must be accessed initially to convert the unit to English

First Level Parameters

Line #	Description	Range	Recommended Defaults
Time Of Day			
1	Time of Day	0...23.59	---
2	Date (Day, Month)	1 Jan – 31 Dec	---
3	Year	2000-2094	---
Set Points			
5	Reduced Room Temperature Set Point	Frost – Day	16
6	Frost Protection Set Point (Room)	4 - Reduced	10
7*	HWS Set Point	20 – 60	55
Time Switch 1 Heating Zone 1 Set Points			
10	Time Switch 1 Day Selection	Mo.Su / Week	#
11	Time Switch 1 First On	00:00 - 24:00	---
12	Time Switch 1 First Off	00:00 - 24:00	---
13	Time Switch 1 Second On	00:00 - 24:00	---
14	Time Switch 1 Second Off	00:00 - 24:00	---
15	Time Switch 1 Third On	00:00 - 24:00	---
16	Time Switch 1 Third Off	00:00 - 24:00	---
Time Switch 2 Heating Zone 2 Set Points (AGU2.500 Clip and QAD36 sensors required)			
20*	Time Switch 2 Day Selection	Mo.Su / Week	#
21*	Time Switch 2 First On	00:00 - 24:00	---
22*	Time Switch 2 First Off	00:00 - 24:00	---
23*	Time Switch 2 Second On	00:00 - 24:00	---
24*	Time Switch 2 Second Off	00:00 - 24:00	---
25*	Time Switch 2 Third On	00:00 - 24:00	---
26*	Time Switch 2 Third Off	00:00 - 24:00	---
Time Switch 3 HWS Set Points			
30	Time Switch 3 Day Selection	Mo.Su / Week	#
31	Time Switch 3 First On	00:00 - 24:00	---
32	Time Switch 3 First Off	00:00 - 24:00	---
33	Time Switch 3 Second On	00:00 - 24:00	---
34	Time Switch 3 Second Off	00:00 - 24:00	---
35	Time Switch 3 Third On	00:00 - 24:00	---
36	Time Switch 3 Third Off	00:00 - 24:00	---
Holidays (Inactive)			
40	Holiday Start Date (Inactive)	1 Jan – 31 Dec	---
41	Holiday End Date (Inactive)	1 Jan – 31 Dec	---
42	Room Temperature Operating Level During Holiday	Frost / Reduced	Frost
General Functions			
45	Default Reset of Time Switch Setting	Yes / No	No
46	External Summer / Winter Changeover Temperatures	8...30	20
47	Display Language	English	English
50*	Fault Code	0..255	#

* Lines are only displayed if the unit is operating in Open Therm Plus mode and if the boiler controller supports its function.

Second Level Parameter Investigation and Alteration Procedure.

The second level is accessed by opening the bottom-hinged cover / flap and pressing the ▲ ▼ PROG button simultaneously for at least 3 second

The Line #51 will appear on the screen along with the associated parameter

Using the ▲ ▼ PROG button the Line #s can be paged through. (51– 98)

When a Line # is displayed that requires alteration the + & - buttons must be used.

To leave the first level parameter press the ⓘ INFO button.

Line #	Description	Range	Recommended Defaults
Service Values			
51	Current Room Temperature Set Point (Heating Zone 1)	4....35	#
52*	Current Room Temperature Set Point (Heating Zone 2)	4....35	#
53*	Outside Air Temperature (Attenuated)	-50....+50	#
54*	Outside Air Temperature (Composite)	-50....+50	#
55*	Actual Value of HWS	0....127	#
56*	HWS Flow Rate	0....16	#
57*	Actual Boiler Return Temperature	-40....127	#
58*	Actual Flue Gas Temperature	-40....500	#
59*	Actual Solar Panel Temperature	-40....250	#
61*	Actual solar Storage Tank Temperature	-40....127	#
62	QAA73 Communication Mode (Open Therm Mode)	Lite / Plus	Plus
Heating Zone Temperature Set Points			
70	Compensation Curves Set Point for Time Switch 1	2.5...40	32
71	Minimum Boiler Flow Temperature for Time Switch 1	8...Max	8
72	Maximum Boiler Flow Temperature for Time Switch 1	Min...90	80
73	Compensation Slope Parallel Displacement for Time Switch 1	-4.5....+4.5	0.0
74*	Build Construction Type	Heavy / Light	Light
75*	Influence of Room Temperature on Boiler Operation	None / HC1	On HC1
76	Pump Switching Differential	0.5...4.0	0.5
77	Compensation Slope Auto Adaptation	Inactive/Active	Inactive
78	Optimum Start Time Maximum Shift Limitation (Minutes)	0...360	100
79	Optimum Stop Time Maximum Shift Limitation (Minutes)	0...360	30
80*	Compensation Curves Set Point for Time Switch 2	2.5...40	0 (32 if AGU used)
81*	Minimum Boiler Flow Temperature for Time Switch 2	8...Max	8
82*	Maximum Boiler Flow Temperature for Time Switch 2	Min...90	8 (80 if AGU used)
83*	Compensation Slope Parallel Displacement for Time Switch 2	-4.5....+4.5	0.0
HWS Set Points			
90*	Reduced HWS Set Point	8....60	40
91	HWS Enable Switching	TSP DHW..	TSP DHW
92*	Anti Legionella Function (Monday Morning 2,5 Hours Max)	Off...On	On
93*	Operating mode for HWS (Eco setting)	With Eco / Without Eco	Without Eco
General			
95	Operational Lock	Off / On	Off
96*	Clock Operation	QAA73 / Boiler	QAA73
97	Summer Time Start	1 Jan...31 Dec	25 March
98	Summer Time End	1 Jan ...31 Dec	25 Oct

Lines are only displayed if the unit is operating in Open Therm Plus mode and if the boiler controller supports its function.

Third Level Parameter Investigation and Alteration Procedure.

The second level is accessed by opening the bottom-hinged cover / flap and pressing the ▲ ▼ PROG button simultaneously for at least 9 second

_____ Will appear on the screen.

The password can be obtained from MHG's Technical Department.

Please be aware that you will be asked as to why you wish to gain access to this level, as parameter alteration within this level must only be undertaken by MHG trained engineers.

The correct Password must be keyed in to allow alteration of the Third Level parameters.

Following the correct insertions of the password the screen will display the Line #100 along with the associated parameter.

Using the ▲ ▼ PROG button the Line #s can be paged through. (51– 98)

When a Line # is displayed that requires alteration the + & - buttons must be used.

To leave the first level parameter press the ⓘ INFO button.

Line #	Description	Range	Recommended Defaults
Room Temperature Set Points And Influence			
100	Maximum Room Temperature Set Point	Min....35	35
101	Minimum Room Temperature Set Point	4....Max	10
102	Room Sensor Influence (Gain Factor)	0....20	4
103	Quick Set Back Constant (Active Only When Room Sensing is Off)	0....20	2
104	Room Temperature Boost Set Point	0....20	5
105	Maximum Boiler Flow Temperature Increase Rate	0....15	5
106	Room Temperature Correction Value Set Point	-3.0....+3.0	0
HWS Set Points			
130*	Maximum HWS Temperature Set Point	Min....80	60
131*	Anti Legionella Temperature Set Point	8....95	70
Service Set Points			
150	Information Display Mode (Time Default / Constant)	Temp / Cont	Temporary
151	Frost Warning Display Temperature (External Temperature)	-10....+10	3.0
152	Influence of Knob for Room Temperature Set Point Adjustment	Enable / Disable	Enable
153*	Action of Override Button	On HC1 + HC2..	On HC1
199	Software Version		#


* Lines are only displayed if the unit is operating in Open Therm Plus mode and if the boiler controller supports its function.

ProCon Fault Indication Codes.

The following codes will be displayed on both the Boiler control panel and the QAA73 Room Unit.

Boiler Control Panel:

If the Boiler LMU64 Controller or QAA73 Room Unit detects an operational fault a relevant code is flashed alternately with the Time of Day display.

If the fault prevents the boiler from operating the  appears at the lower left corners of the display.

By pressing the INFO button on the display a full screen display will indicate the fault code.

QAA73 Room Unit:

If the QAA73 Room Unit or Boiler LMU64 Controller detects an operational fault the  appears on the room units display.

By opening the bottom-hinged cover / flap on the room unit and pressing the ▼ PROG button twice Line # 50 will indicate the fault code and give a brief description of the fault.

Faults can only be reset at the boiler by pressing the RESET button.

Prior to pressing the RESET button a note should be made of the fault code for future reference.

Fault Code	Description
E-0	No Error Detected
E-10	Outside Air Sensor Fault / Not Detected
E-20	Flow Water Sensor Fault / Not Detected
E-28	Flue Gas Sensor Fault / Not Detected
E-40	Return Water Sensor Fault / Not Detected
E-50	HWS Sensor Short Circuit 1
E-52	HWS Sensor Short Circuit 2 (Not Used)
E-60	Faulty Room Sensor
E-61	Faulty Room Sensor
E-62	Incorrect Room Unit Connected
E-77	Air Pressure Sensor Not Detected (Not Used)
E-78	Water Pressure Sensor Defective (Not Used)
E-81	LPB Short Circuit (Boiler Cascade Wiring)
E-82	LPB Address Conflict (Boiler Cascade Settings)
E-91	EEPROM
E-92	Hardware Malfunction
E-100	Conflict Between Time of Day Master Control (Boiler / QAA73 / RVA47)
E-110	Boiler Water Temperature Overheat
E-111	Boiler Temperature Too High (Auto Resetting)
E-113	Flue Gas Temperature overheat
E-117	High System Water Pressure Sensor (Not Used)
E-118	Low System Water Pressure Sensor (Not Used)
E-119	System water Pressure Switch Activated
E-124	Boiler Temperature Too High (Auto Resetting)
E-128	No Flame Detected After Ignition Attempts (Version D LMU)

E-129	Flame Extinguished During Operation (Version D LMU)
E-130	Flue Temperature Too High (Auto Resetting)
E-131	Fault With Burner
E-132	External Safety Interlock Activated (Open Circuit) X10-03
E-133	No Flame Detected After Ignition Attempts
E-134	Flame Extinguished During Operation
E-135	Air Supply Error (Not Used)
E-140	LPB Segment / Address Not Recognized (Boiler Cascade Settings)
E-142	LPB Missing Partner (Boiler Cascade Settings)
E-148	LPB Interface Not Configured (Boiler Cascade Settings)
E-150	General Boiler Fault
E-151	Boiler LMU64 Controller Malfunction
E-152	Boiler LMU64 Controller Parameter Programming Error
E-153	Boiler Reset Button Pressed When Boiler Was Not In Fault. <small>Boiler Control Interlocked</small>
E-154	Operational Error Detected Relevant to a Parameter setting. <small>Commonly a System Hydraulic Error</small>
E-160	Fan Not Reaching Set Point
E-161	Combustion Fan Speed Too High
E-162	Air Pressure Switch Fault (Not Used)
E-164	Flow Switch / Pressure Switch Open
E-166	Air Pressure Switch Fault (Not Used)
E-180	Boiler Operating in Chimney Mode 50% Output
E-181	Boiler Operating in Commissioning Mode
E-183	Boiler Controller / QAA73 Room Unit in Parameter Setting Mode
-bu-	Controller / display card malfunction (Ribbon cable loose / wiring error)