



Schedule automatic calibration for AirCal 8000

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INTRODUCTION

You can schedule the Aeroqual AirCal 8000 to deliver zero and span calibration gas automatically, without the need for an engineer to visit the site. Adjustments to the offset and gain are then made remotely using the **Calibration and Service** app in Aeroqual Cloud.

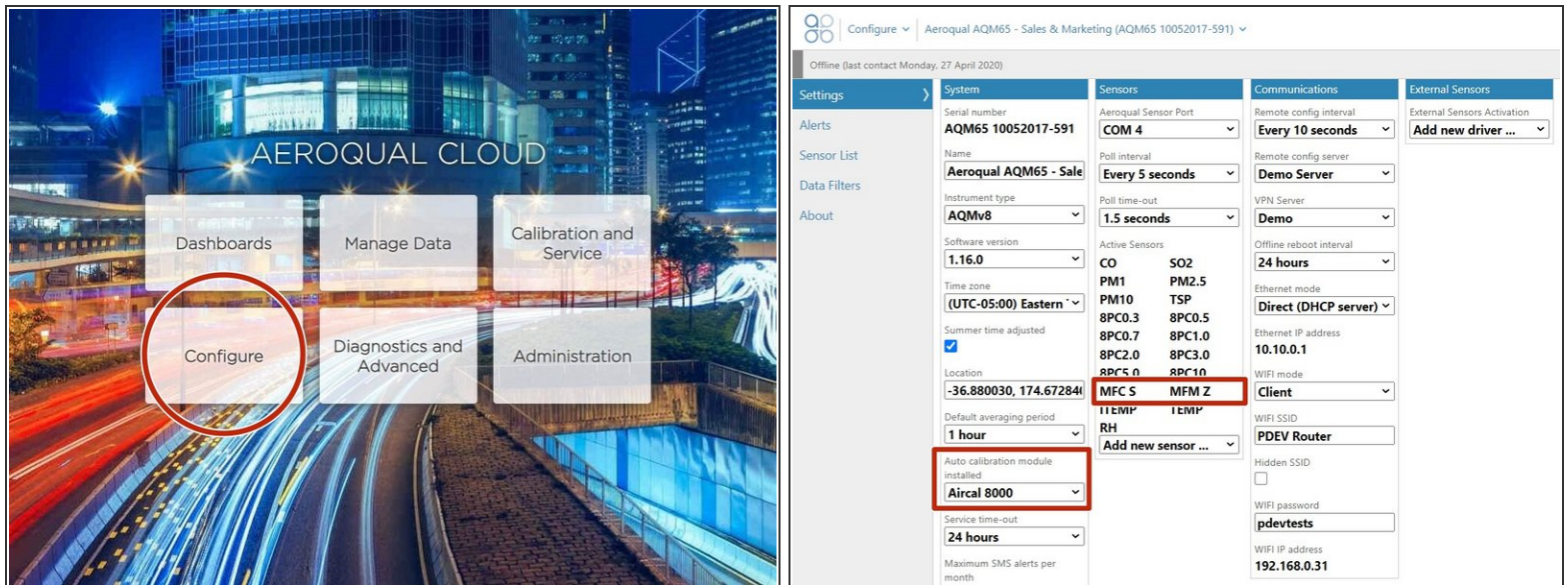
Note: Because the compartment is only big enough for 2 gas cylinders, you can only set up the schedule to automatically calibrate 2 gas modules. If you have 3 or more modules, you'll need to visit your site to calibrate and should consider using the AirCal 1000.



PARTS:

- [AirCal 8000 integrated calibration module](#) (1)
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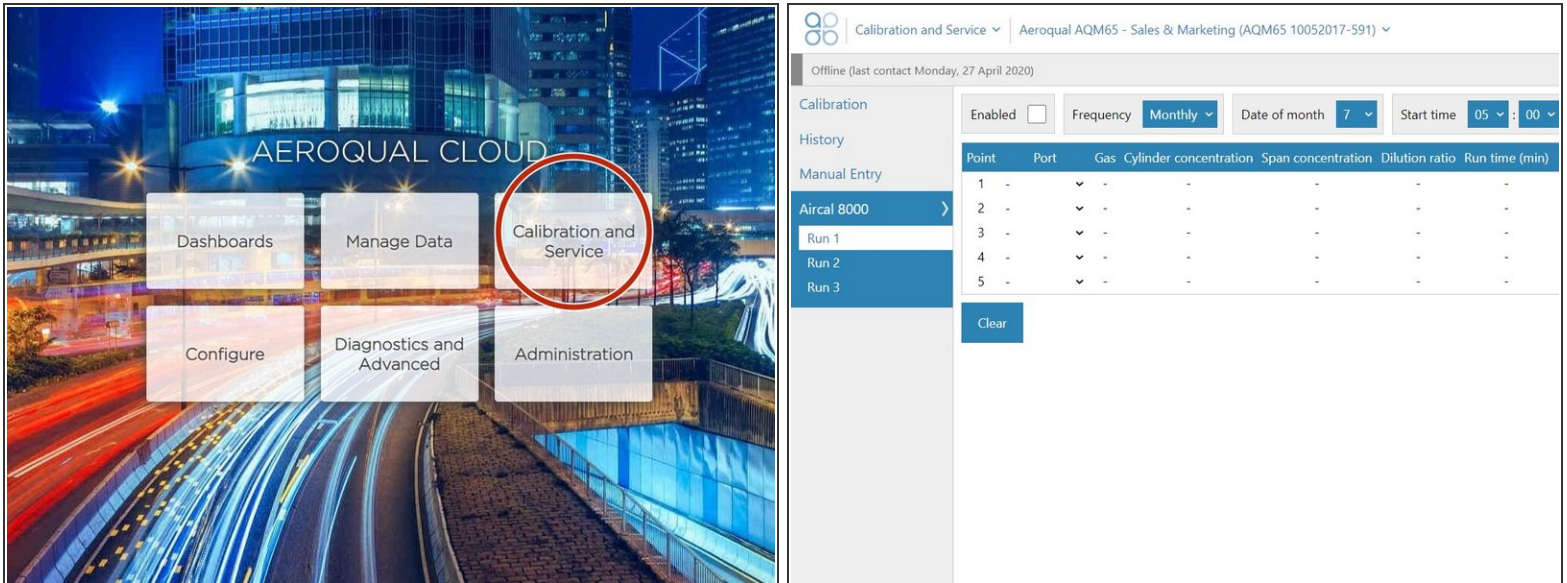
Step 1 — Check settings



The image shows two parts of the Aeroqual Cloud interface. On the left is the home screen with a city night background and several menu buttons: 'Dashboards', 'Manage Data', 'Calibration and Service', 'Configure' (circled in red), 'Diagnostics and Advanced', and 'Administration'. On the right is the 'Configure' settings page for an 'Aeroqual AQM65 - Sales & Marketing (AQM65 10052017-591)' device. The settings are organized into columns: System, Sensors, Communications, and External Sensors. In the 'System' column, the 'Auto calibration module installed' dropdown is set to 'AirCal 8000'. In the 'Sensors' column, under 'Active Sensors', 'MFC S' and 'MFM Z' are listed and highlighted with red boxes. Other settings include 'Serial number', 'Name', 'Instrument type', 'Software version', 'Time zone', 'Location', 'Default averaging period', 'Service time-out', and 'Maximum SMS alerts per month'.

- From your Aeroqual Connect or Aeroqual Cloud home screen, click **Configure**.
- Select **Settings** from the side menu.
- Make sure **AirCal 8000** is selected in the **Auto calibration module installed** drop-down in the **System** column.
- Make sure **MFM Z** and **MFC S** are in the **Active sensors** list in the **Sensors** column.
- ❗ **MFM Z** is the calibrator's mass flow meter (part that measures the zero air flow) and **MFC S** is its mass flow controller (part that controls the calibration gas flow).

Step 2 — Define run frequency



The screenshot displays the Aeroqual Cloud web interface. On the left, a sidebar menu contains several options: Dashboards, Manage Data, Calibration and Service (highlighted with a red circle), Configure, Diagnostics and Advanced, and Administration. The main content area is titled 'Calibration and Service' and shows settings for 'Aircal 8000'. The 'Enabled' checkbox is checked. The 'Frequency' is set to 'Monthly'. The 'Date of month' is set to '7'. The 'Start time' is set to '05:00'. Below these settings is a table for manual entry with columns: Point, Port, Gas, Cylinder concentration, Span concentration, Dilution ratio, and Run time (min). The table has five rows, labeled 'Run 1' through 'Run 5'. A 'Clear' button is located at the bottom of the table.

- From the Aeroqual Connect or Aeroqual Cloud home screen, click **Calibration and Service**.
- Select **Run 1** under **Aircal 80000** in the side menu.
- Check the **Enabled** check box.
- Choose a calibration run frequency from the **Frequency** drop-down. It can execute every day, every week or every month.
- Define a run start time.

Step 3 — Define run points

Calibration and Service ▾ Aeroqual AQM65 - Sales & Marketing (AQM65 10052017-591) ▾

Offline (last contact Monday, 27 April 2020)

Calibration
History
Manual Entry

Aircal 8000 ▸

Run 1
Run 2
Run 3

Enabled ☐ Frequency Monthly ▾ Date of month 7 ▾ Start time 05 ▾ : 00 ▾

Point	Port	Gas	Cylinder concentration	Span concentration	Dilution ratio	Run time (min)
1	Zero	-	-	-	-	30
2	Span port 1 ▾	CO2 ▾	1000 ppm	25 ppm	40	30
3	Span port 2 ▾	H2S ▾	1000 ppm	25 ppm	40	30
4	Zero	-	-	-	-	10
5	-	-	-	-	-	-

Clear

- Enter up to 5 points for your calibration run and define dilution ratios and run times for each.
- ❗ There are only 2 inlet ports for selection because there are only 2 gas cylinders in the AirCal 8000 and you can only set up the schedule to calibrate 2 gas modules.
- If desired, start the run straight away by clicking **Start** beside **Manual Run**.
- ❗ You can schedule up to three calibration runs for your AirCal 8000.

Step 4 — Adjust offset and gain

Calibration parameters

	NO2 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m³	PM2.5 µg/m³	TEMP °C	RH %	DP °C
Gain	1.000	1.000	1.200	1.000	1.000	1.000	1.000	1.000	1.000
Offset	-5.3	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
a	1.100		2.550						
b			1.870						

Save changes?

Real time measurements Last 10 readings ▾

Time	NO2 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m³	PM2.5 µg/m³	TEMP °C	RH %	DP °C	Inlet
1:57 p.m.	3.0	27.0	29.2	26.8	2.2	2.1	15.92	53.3	6.4	Sample
1:56 p.m.	3.4	27.6	29.0	26.6	2.0	1.8	16.02	53.6	6.6	Sample
1:55 p.m.	3.5	28.4	29.4	27.0	1.6	1.5	15.98	54.1	6.7	Sample
1:54 p.m.	3.5	28.6	29.8	27.3	1.3	1.2	15.89	54.0	6.6	Sample
1:53 p.m.	2.6	27.7	30.1	27.2	1.7	1.6	15.79	54.0	6.5	Sample
1:52 p.m.	3.1	26.9	29.1	26.7	1.7	1.6	15.73	53.7	6.3	Sample
1:51 p.m.	4.2	27.4	28.3	26.0	1.9	1.7	15.88	53.6	6.5	Sample
1:50 p.m.	4.4	28.3	28.7	26.3	1.6	1.5	15.92	54.0	6.6	Sample
1:49 p.m.	3.6	27.9	29.2	26.8	1.6	1.5	15.90	53.8	6.5	Sample

- When you're back in your office or laboratory, the calibration run will automatically initiate at the time and frequency you defined.
- Use Aeroqual Cloud to watch the response of the calibration gas delivered to the AirCal 8000 and make any [manual adjustments to the gain and offset](#).

For further support, contact [Technical Support](#).