IC-News: Use IC-Meter to control ventilation and heating systems

IC-Meter has won SUSTAINABLE BUILD Innovation Challenge 2016

IC-Meter introduces the free control-service *'Control by Cloud'*, **where owners of IC-Meters can define and process their own criteria based on indoor climate measurement and local weather data. The aim is to improve and visualize control of heating and ventilation systems (BMS).**

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There are three arguments for moving the control software from the technical devices to a Cloud-service.

First - IC-Meter's Cloud-services has 'extra' relevant information that BMS systems usually doesn't have:

- Indoor Climate data and user's behavior documentations ('Activity Index' etc.)
- Local weather forecast 48 hours ahead, and
- Key Figures for the buildings characteristics regarding indoor climate, user behavior and energy

Second - IC-Meter and the buildings 'Black Box' introduce a concept where data is stored to improve control functions by learning from a buildings actual performance.

Third - Cloud services are more flexible and cheaper to run. CPU's in technic boxes are expensive to install, maintain and upgrade and smart setup's from day one are hard to change when the needs and possibilities for new control strategies appear. By moving the control-functions to a Cloud-solution, simple algorithms can be upgraded to advanced solutions without new hardware investments.

IC-Meter 'Control by Cloud' - based on Indoor and Outdoor data

	Temperature	Humidity	CO_2	Control ON/OFF *Automatic*
Indoor	23.1 °C 🟢	60.8 % 🟡	423 ppm 🟢	OFF 🔴
Outdoor	21.8 °C	74.0 %	390 ppm	
Δ Indoor - Outdoor	1.3 °C	– 1.3 g/m^3 *	33 ppm	

* Difference in absolute humidity (g/m^3): inside - outside

Track historical data via Report/Indoor - 5 minutes data or by Public API http://www.ic-meter.com/public-api/

With the new concept 'Control by Cloud' IC-Meter invites their users – and vendors of control software – to process their own code in the IC-Meter Cloud (with full respect for privacy regarding algorithms and data management).

Use your IC-Meter to control ventilation and heating systems

IC-Meters first launch is an ON/OFF control where the heating or ventilation system can be turned ON and OFF by Cloud – either via a Public API or a cable connected to the IC-Meter box. The IC-Meter user controls this manually or automatically by setting their own criteria for indoor and outdoor conditions in Box Settings.

Guide to Control set up – ON/OFF

1. www.ic-meter.com / login with your username and password.
2. Go to 'Box Settings' (Click the wheel ⚙).
3. Click 'Advanced' and 'Control'.
4. Activate 'ON/OFF Control', write Nickname and click 'Save Settings'.
5. Click 'Back' and return to normal IC-Meter view.

Control
Control — set up
None ○
ON/OFF Control ◉
Control ON/OFF
Nickname: Ventilation - Office East
Tech. Inf.: Installed 06-09-16

6. IC-Meter view will now show a new tab 'Control' under which you will find 'Criteria Settings'.

Indoor Climate	Weather	Energy & Water	**Control**	Report			⚙
Status		Criteria Settings			Day	Week	Year
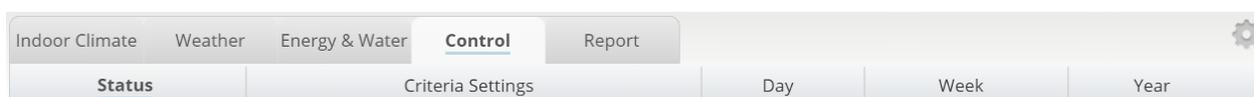
7. Now define your own control criteria for indoor and outdoor climate and …

Add New Control Criteria for ON

Control for   **Workdays** ◉   **Weekends** ○

Type of criterion:	Indoor climate sensor data ▼
Meter:	Temperature ▼
Relation:	Greater than ▼
Threshold:	[ ] °C

[AND]   [END and SAVE]

[Return]

… see your actual control criteria:

Active Control Criteria
Workdays

Indoor climate CO2 > 1000 ppm   ✗
    OR
Indoor climate relative humidity > 65 %   ✗
    AND Difference between indoor and outdoor absolute humidity > 2 g/m3

How to get access to Control signals?

You can get control signals for ON/OFF online in three different ways:

- IC-Meter cable 9022 - Cable from IC-Meter Box which delivers 5V (ON) or 0V (OFF) or connects or cuts an electric circuit powered by external supply
- IC-Meter cable 9024 - Cable from IC-Meter Box which delivers 5V/0% by a female-USB port, to control 230V power strip - 'Elspareskinne' in Danish
- Public API http://www.ic-meter.com/public-api/

Get more information on www.ic-meter.com - or contact Göran Wilke, Mobile 21 20 55 58, gw@ic-meter.com.