



Automatically good learning environment ventilation control Sonthofen grammar school



AMUN 716 R

Pilot project for schools in need of renovation

Lesson's over: Open all the windows and let fresh air into the room! That's how it used to be. Such conventional ventilation practices are no longer up-to-date in view of increased demands for energy efficiency in buildings. At Sonthofen grammar school, which has been newly built or converted according to low energy building standards, energy-efficient building services engineering has been chosen with automatic ventilation adjusted to actual requirements. Amun 716 R CO₂ sensors control the inflow of fresh air to the classrooms depending of the air quality in the room. This continually ensures a good learning environment with minimal possible energy loss. The energy-saving technology contributes to the whole renovation project acting as a model for hundreds of schools needing renovation and being supported by the Federal Ministry of the Environment.

Function

- Energy-efficient ventilation
- Continuously good room temperature and air quality
- Improving the learning environment
- CO₂ concentration warning
- Humidity control

Lösung

- Ventilation control via Amun 716 R CO₂ sensor
- Traffic light warning display
- Integration in building controller



Theben Amun 716 R CO₂ sensors control and control the ventilation in classrooms to exactly meet the requirement for fresh air.

CO₂ sensors counteract poor air quality

Smart boards in place of blackboards show that modern technology is being used in the new classrooms. That also applies to the building services engineering planned by the Kettner & Baur engineering office in co-operation with the HVAC planner to produce an efficient overall system. The school is heated by a condensing gas boiler and a heating pump. The latter is also used for cooling in the summer months. As the realisation that poor air quality has a negative effect on performance and concentration levels has now become widely accepted, air quality and CO₂ content are monitored and controlled room-by-room in addition to room temperature control. In addition, the contractor Tannheimer Elektro & Gebäudetechnik chose Theben CO₂ sensors.

“We were absolutely convinced by the AMUN 716 R CO₂ sensor. But the manufacturer support and project-related advice from the sales managers was also outstanding.”

Project Manager Peter Junghans
Kettner & BAUR, Engineering Office
Memmingen

Values integrated in building controller

The Amun 716 R CO₂ sensors measure the carbon dioxide content in the air as well as the relative humidity and activate the controlled room ventilation when the appro-

priate threshold values have been exceeded. They are ideal for conference and meeting rooms, offices, schools and nurseries, offices as well as passive and low energy houses. In addition, they provide three 0-10 volt outputs for CO₂, relative humidity and temperature. In cases where ventilation is directly controlled, two available CO₂ switching outputs for two-stage control and display of the switching status. A warning signal on the device in the traffic light colours of green, yellow and red displays the CO₂ concentration. In this project, the analogue signals are switched via Wago IO inputs to the DDC building control and evaluated there. In turn, these control the ventilation units at several levels. Values are controlled, set point values optimised and switching complete via visualisation.



The low energy house standards were adopted in the building and renovation of Sonthofen grammar school.

Customer	Stadt Sonthofen Franz Friedberger Building management department www.sonthofen.de
Planning	Kettner & Baur Engineering Offices Memmingen www.ibkb-elektrotechnik.de
Installation	Tannheimer Elektrotechnik Kempten www.elektro-tannheimer.de

Image Source: Elmo Schwandke, Geretsried

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