



ALD24VAV-LON is a controller for zone control of VAV and heating with LON Works communication

- Setpoint 0...30°C
- Internal or external sensor
- Setpoint offset +/- 3K
- 0...10 V outputs for VAV-control and heating
- Input for occupancy control
- Input for CO₂-sensor
- Input for external 0...10 V from VAV unit
- Communication according to LonMark profile 8502

Function

ALD24VAV-LON is a room controller for wall mounting. It has a built-in temperature sensor and two 0...10 V outputs for control signal to VAV-controller and heating valve actuator. The controller has adjustable P- and I-time and input for occupancy control and CO₂-sensor. There is also an extra 0...10 V input that is transferred as a network variable to the LON Works network. Settings are made using the menu system in the display or via the LON Works network. Actual temperature and output levels are shown continuously in the display.

Sensors

The controller has a built-in sensor. Alternatively, an external sensor (Regin NTC 0...30°C) can be used. In this mode the jumper external/internal inside is reset. It is also possible to send temperature sensor values to the controller via the LON network.

Setpoint

Is set in the setting-level menu. The controller uses heating setpoint and cooling (VAV) setpoint. The settings are factory set to 21°C or 23°C. If occupancy control is used there are different setpoints in different states.

Setpoint offset

By pressing the [+] or [-] buttons on the front, individual setpoint adjustments can easily be made without entering the setting level of the menu system (settable +/- 3K in 0.5 steps).

Heating output

Is possible to activate/deactivate via the menu system.

VAV output

For connection to a damper actuator or VAV-damper controller for 0...10 V input. Minimum and maximum air volume can be set in the VAV-damper controller. Minimum limit can also be set via LON Works network.

Occupancy control

The controller has an input for a closing contact from an occupancy detector or similar device. This makes it possible to set the controller on comfort level or economy level. When presence is determined the controller runs with comfort

setpoint for heating and VAV(cooling) respectively. If presence is not detected, the controller works in unoccupied mode, with reduced setpoint for heating and raised setpoint for cooling. The two levels have individual setpoints for heating and cooling. The display shows if the controller works in economy mode or comfort mode. Closed contact gives comfort mode. Open contact gives economy mode.

Modes of occupancy control in LON network

- Occupied (comfort)
- Unoccupied (economy)
- Stand-by

Via the LON network it is possible to set the controller in stand-by (energy saving) mode. Both outputs are set to zero and the room temperature is allowed to vary between 10...30°C. If the temperature drops below 10°C, the heating output is activated and if the temperature rises above 30°C, the cooling output is activated.

CO₂-sensor input

ALD24VAV-LON has an input for 0...10 V signal from CO₂-sensor. When the CO₂-level exceeds a preset level (factory setting 800 ppm) the VAV output signal is forced to increase, in order to increase the air volume to the room. The CO₂-level setpoint can be changed via the display.

Display and menu system

To access the menu settings, do as follows: Press buttons [<] and [>] continuously for five seconds. The display shows the installed software version. Then press the button [-] three times, the controller enters setting level and gives access to setpoints, control parameters etc.

To send a service-pin message over the LON-network, the buttons [>] and [-] are held down followed by a press on the [-] button. The display shows "LON". If a wink message is received, the display blinks between showing "LON" and showing "—" for 10 seconds to indicate the physical location of the device. See overleaf for more information.

Technical data

Supply voltage	24 V AC +/- 15% 50-60 Hz
Power consumption	4 VA
Ambient temp	0...50°C (working range built-in sensor 0...30°C)
Storage temp	-40...+50°C
Ambient humidity	Max 90% RH
Protection class	IP20
CE	This product conforms with the requirements of European EMC standards GENELEC EN61000-1 and EN61000-3 and carries the CE-mark.

Inputs

External sensor	0...30°C (Regin NTC sensor)
Occupancy	Closing contact from i.e. presence detector IR24-P
External 0...10 V	Can be used to transfer the VAV position to the LonWorks network
CO ₂ sensor	0...10 V corresponding to 0...2000 ppm CO ₂ -level

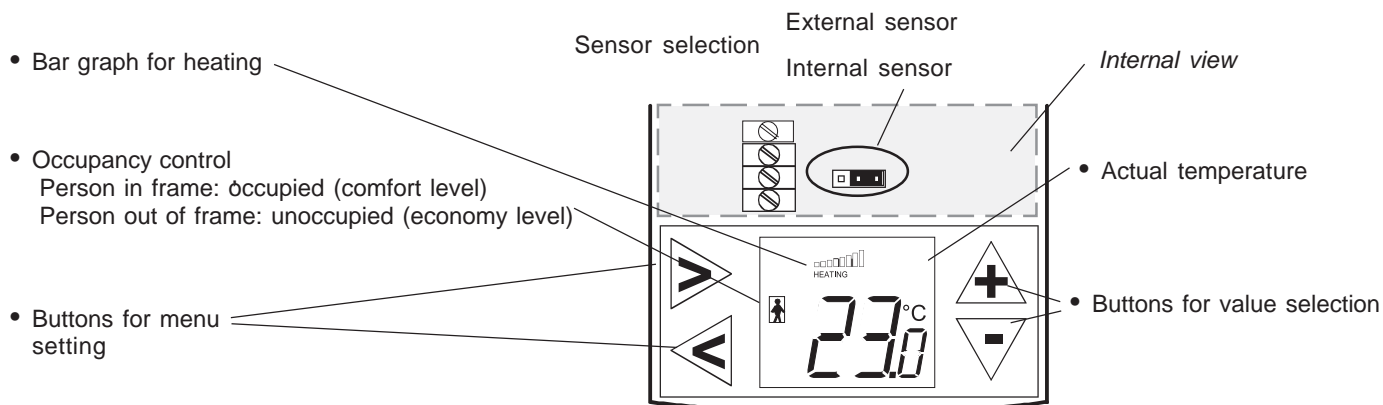
Outputs

Control (output) signal	Two, 0...10 V DC, 1 mA
Communication	LonWorks, according to interface FTT-10 Network variable interface according to LonMark profile 8502 - "VAV controller" For more information: http://www.lonmark.org/products/fprofile.htm#hvac

Settings (menu)

Setpoint	Temperature rangeability 0...30°C (Factory settings)
	heating 21°C
	VAV (cooling) 24°C
Setpoints occupancy control	comfort level, heating 21°C
	comfort level VAV, cooling 23°C
	economy level, heating 16°C
	economy level VAV, cooling 28°C
P-band	0.5...99.9 K 5 K
I-time	0...999 s (0 means integration function not active)
Calibration (temp. sensor)	+/- 3 K (internal or external sensor)
Occupancy function	active or inactive (factory setting: inactivated)
CO ₂ -setting	0...2000 ppm 800 ppm
Heating output	Active or inactive (factory setting: inactivated)
Jumper BY1	Right = Internal sensor (factory setting) Left = External sensor

Wiring, display and dimensions



1	Supply voltage 24 V AC	9	Input 0...10 V external signal
2	System voltage neutral 24 V AC	10	Signal neutral
3	Output 0...10 V, VAV (heating)	11	Input 0...10 V CO ₂ -sensor
4	Signal neutral	12	Signal neutral
5	Output 0...10 V, VAV (cooling)	13	LON net B
6	Signal neutral	14	LON net A
7	External sensor	15	Protective earth
8	Occupancy control input		

