A pressure sensor, digital VAV controller and damper actuator all in one, providing a compact solution with a communications capability for pressure-independent VAV and CAV systems in the comfort zone

- **Communication via LonWorks®**
- **Integrated room temperature controller**
- **Conversion of sensor signals**
- **Service socket for operating devices**

LMV-D3LON
NMV-D3LON

Brief description

Application
The VAV-Compact has PI control characteristics and is used for pressure-independent control of VAV units in the comfort zone.

Pressure measurement
The integrated D3 differential pressure sensor is also suitable for very small volumetric flows. The maintenance-free sensor technology enables versatile applications in the comfort zone: in residential construction, offices, hospitals, hotels, cruise ships, etc.

Actuator
2 different actuator variants (5 or 10 Nm) are available for different VAV units structures.

Control function
Volumetric flow (VAV-CAV) or Open-Loop (for integration in an external VAV control loop).

VAV (VVS) – variable volumetric flow
Demand-dependant setting of volumetric flows $\dot{V}_{min...max}$ on a modulating reference variable via LonWorks®, e.g. room temperature / $CO_{2\ controller}$, DDC or Bus system, for energy-saving air conditioning in individual rooms or zones.

DCV – Demand Controlled Ventilation
In higher-level LonWorks®-System, for example with integrated optimiser function.

Type of action
The actuator is equipped with an integrated interface for LonWorks®. The actuator can be integrated and connected directly with LONWORKS® via transceiver FTT-10A.

Converter for sensors
Connection option for a sensor (passive or active sensor or switching contact). In this way, the analogue sensor signal can be easily digitised and passed along to LONWORKS®.

Integrated temperature controller
The actuator has an integrated temperature controller (Thermostat Object LONMARK® #8060). This makes it easy to implement individual room control solutions. The controller can be set using the LNS plug-in available from Belimo.

Parameterisation
The factory settings cover the most common applications. As desired, individual parameters can be adapted for specific systems or servicing with a service tool (e.g. ZTH EU).

Operating and service devices
Service tool ZTH, PC-Tool service socket: locally pluggable or via PP connection.

Electrical connection
The connection is made with the integrated connection cable.

Sales, mounting and setting
VAV-Compact will be mounted by the VAV unit manufacturer (OEM), the application will be set and calibrated accordingly. The VAV-Compact is sold exclusively via the OEM channel for this reason.

Type overview LON versions

Type	Torque	Power consumption	Rating	Weight
LMV-D3LON	5 Nm	2,5 W	4,5 VA (max. 8 A @ 5 ms)	Approx. 500 g
NMV-D3LON	10 Nm	4,5 W	6,5 VA (max. 8 A @ 5 ms)	Approx. 700 g

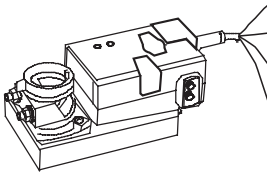
Other versions
The VAV-Compact is also available with a built-in interface for direct integration in MP-Bus systems, KNX and Modbus RTU.
See www.belimo.eu for more information and documentation.

Safety notes

- The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.
- Outdoor applications: possible only in the absence of direct effects on the actuator from (sea)water, snow, ice, sunlight and aggressive gases and when it is guaranteed that the ambient conditions do not deviate at any time from the limit values specified in the datasheet.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Cables must not be removed from the device.
- When calculating the torque required, the specifications supplied by the damper manufacturers (cross-section, construction, place of installation), and the ventilation conditions must be observed.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Electrical installation

Notes
- Supply via safety isolating transformer!
- Supply and communication are not galvanically isolated.
- Connect earth signal for devices with one another.



No.	Designation	Wire colour	Function
1	⊥ –	black	AC/DC 24 V supply
2	~ +	red	
3			
5	► MFT	orange	PP connection
6	LON	pink	LonWorks
7	LON	grey	

See separate documentation for description of functions and applications

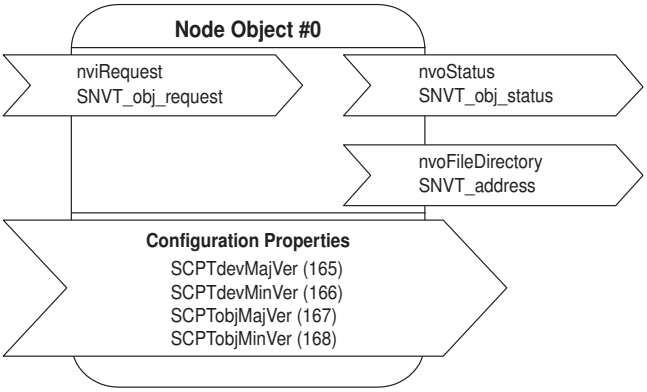
Technical Data

Electrical data	Nominal voltage	AC/DC 24 V, 50/60 Hz
	Operating range	AC 19.2...28.8V / DC 21.6...28.8V
	Performance data	See Overview of types (page 1)
	Connecting	Cable, 6 x 0,75 mm², preassembled
VAV controllers	Control function	VAV/CAV and Open-Loop
	$\dot{V}_{nom}$ [1]	OEM specific nominal volumetric flow setting, suitable for VAV unit
	Δp @ $\dot{V}_{nom}$ [1]	38…500 Pa
	$\dot{V}_{max}$	20…100 % of $\dot{V}_{nom}$, adjustable
	$\dot{V}_{mid}$	>$\dot{V}_{min}$…<$\dot{V}_{max}$, adjustable
	$\dot{V}_{min}$	0…100 % of $\dot{V}_{nom}$, adjustable (<$\dot{V}_{max}$)
Sensor integration	input	0…32 V, input impedance 100 kΩ
	Sensor	Active Sensor (0…10 V) Switching contact (0 / 1) (switching capacity 16 mA @ 24 V)
Local override control	Override	CLOSED / $\dot{V}_{max}$ / OPEN, AC 24 V supply required
Data for LonWorks®	Certified	According to LonMark® 3.3
	Processor	Neuron 3150
	Transceiver	FTT-10A, compatible with LPT-10
	Functional Profile as per LONMARK®	Damper Actuator Object #8110 Open Loop Sensor Object #1 Thermostat Object #8060
	LNS plug-in for actuator / sensor / controller	Can be run with any LNS-based integration tool (min. for LNS 3.x)
	Service button and status LED	According to LONMARK® guidelines
	Conductors, cables	Signal cable lengths, cable specifications and topology of the LONWORKS® network in accordance with the ECHELON® guidelines
	Parameterisation	LNS Tool + Plug-in
Operation and servicing	Service tool ZTH, PC-Tool	Local plug / Remote via PP connection
	LED	Supply , status and communication display
	Push-button	Addressing, angle of rotation adaptation and test function
Actuator	Rotary/linear version	Brushless, non-blocking actuator with power-save mode
	Direction of rotation [1]	ccw / cw
	Angle of rotation	95°, adjustable mechanical or electronic limiting
	Gear disengagement	Push-button self-resetting without functional impairment
	Position indication	Mechanical or accessible (Tool, Bus-Master)
	Spindle holder	Spindle clamp for round and square shafts
Volumetric flow measurement	Differential pressure sensor	Belimo D3 sensor, dynamic measurement principle
	Measurement range, operating range	–20…500 Pa, 0…500 Pa
	Overload capability	±3000 Pa
	Altitude compensation	Adaptation to system altitude (adjustable between 0…3000 m above sea level)
	Installation position	Any, no reset necessary
	Materials in contact with medium	Glass, epoxy resin, PA, TPE
	Measuring air conditions	Comfort zone 0…50°C / 5…95% rH, non-condensing
Safety	Protection class IEC/EN	III Safety extra-low voltage
	Degree of protection IEC / EN	IP54
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Rated current voltage Supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Non-operating temperature	-40...80°C
	Ambient humidity range	95% r.h., non-condensing
	Maintenance	Maintenance-free. Depending on the application, the differential pressure sensor (measuring cross, disc, …) of the VAV unit is checked occasionally and cleaned if required.

[1] Setting by VAV manufacturer (OEM)

Functional Profile as per LONMARK®

The LON-capable actuator is certified by LONMARK®. The following actuator functions are made available via the LONWORKS® network as standardised network variables in accordance with LONMARK®: the Node Object #0, the Damper Actuator Object #8110, the Open Loop Sensor Object #1 and the Thermostat Object #8060.



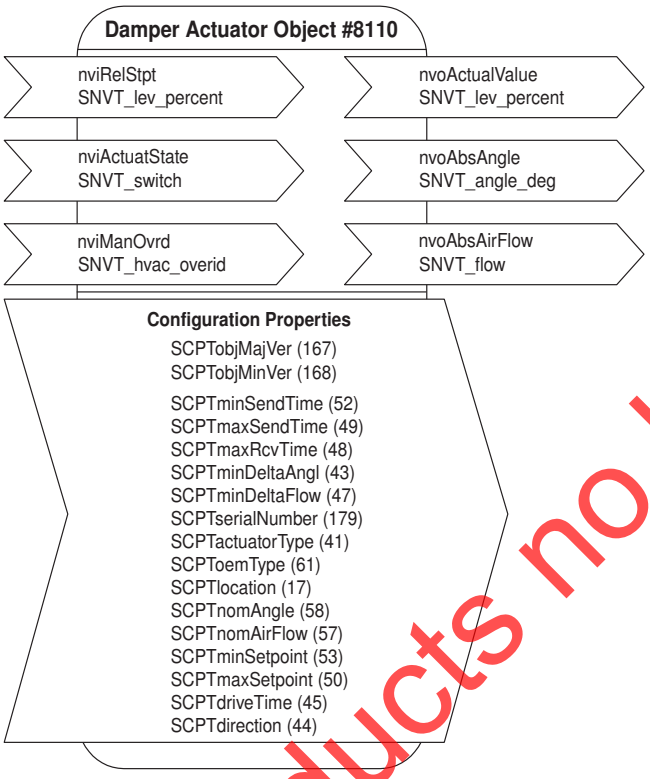
Node object #0

The node object contains the object status and object request functions.

nviRequest: SNVT_obj_request
Input variable for requesting the status of a particular object in the node.

nvoStatus: SNVT_obj_status
Output variable that outputs the current status of a particular object in the node.

nvoFileDirectory: SNVT_address
Output variable that shows information in the address range of the Neuron chip.



Damper actuator object #8110

The actuator object is used to display the functions of the actuator on the page of the LONWORKS® network.

nviRelStpt: SNVT_lev_percent
The nominal position in % (0...100% = Min...Max) is assigned to the actuator via this input variable. This variable is normally linked to the output variable of an HVAC controller.

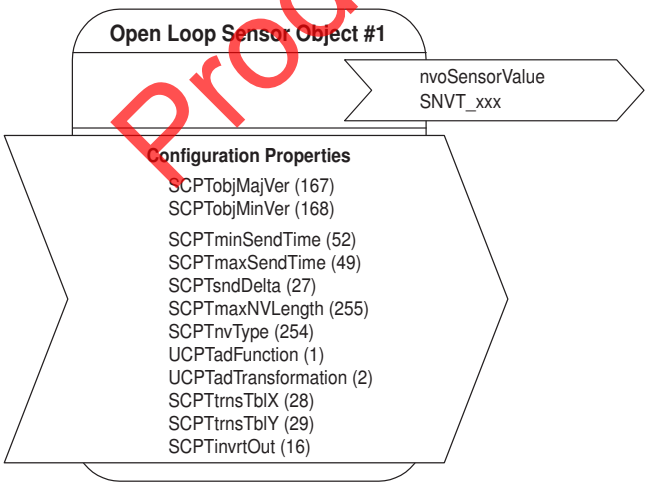
nviActuateState: SNVT_switch
A preset position is assigned to the actuator via this input variable. Note on priority: The variable which was most recently active, either nviActuatorState or nviRelStpt, has priority.

nviManOvrd: SNVT_hvac_overid
See table "Override control with the SNVT nviManOvrd"

nvoActualValue: SNVT_lev_percent
This output variable shows the current volume (in % $_{Nom}$ of the VAV unit) and can be used for control circuit feedback or for displaying positions.

nvoAbsAngle: SNVT_angle_deg
This output variable shows the current angle of rotation / stroke of the actuator and can be used to display the position or for service purposes.

nvoAbsAirFlow: SNVT_flow
This output variable shows the current volume flow in l/s (this variable is only active in conjunction with LON-capable VAV controllers).



Open Loop Sensor Object #1

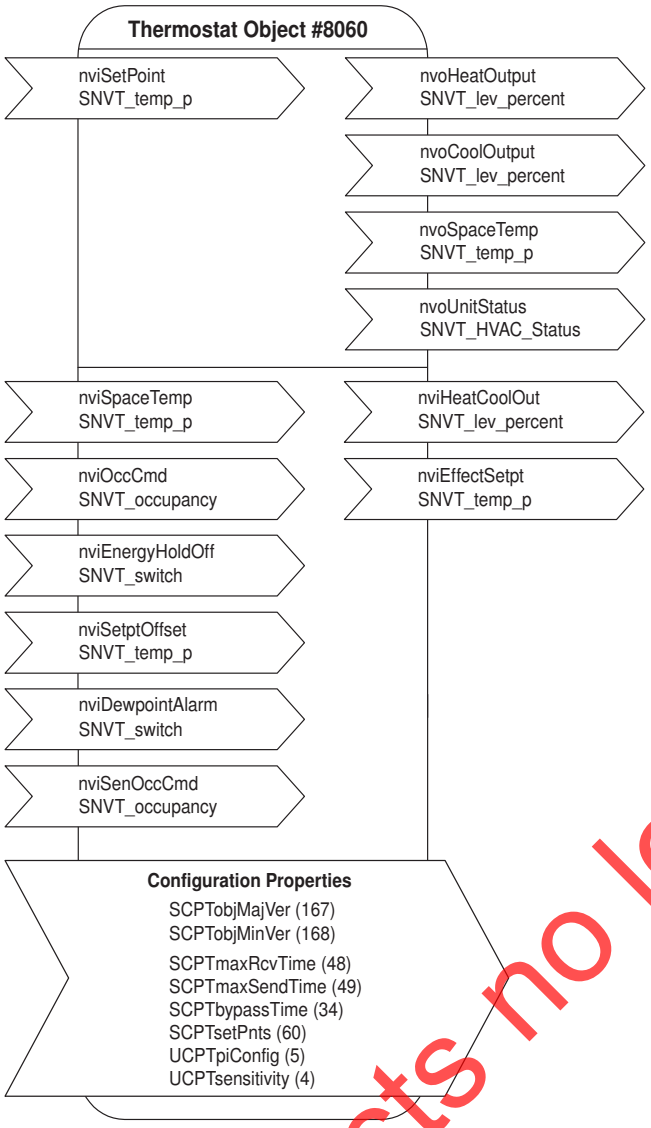
One sensor can be connected to the actuator.
An active sensor (output 0 ... 32V) or a switch (on/off) can be connected. In the case of the open loop sensor object, the measured sensor values are transferred to the LONWORKS® network.

nvoSensorValue: SNVT_xxx
This output variable shows the current sensor value. Depending on the connected sensor, the output variable can be configured via the sensor plug-in and specifically adapted to the system.

The SNVT_.. can be configured as:		
SNVT_temp_p	SNVT_lev_percent	SNVT_lux
SNVT_temp	SNVT_abs_humid	SNVT_press_p
SNVT_switch	SNVT_enthalpy	SNVT_smo_obscur
SNVT_flow	SNVT_ppm	SNVT_power
SNVT_flow_p	SNVT_rpm	SNVT_elec_kwh

Functional Profile as per LONMARK®

With the thermostat object LONMARK® #8060, individual room control can be realised. An LNS plug-in is available for configuring the controller parameters.



Thermostat Object #8060

nviSetPoint: SNVT_temp_p
Setpoint specification for the controller from the higher-level system or the room control unit. If this variable is not linked, then the local setpoints of the controller object apply (can be adjusted via plug-in).
The setpoint specification from the higher-level system influences the setting on the controller as follows:
Example: Comfort setpoint for heating = 21 °C and Comfort setpoint for cooling = 23 °C. The median point between heating and cooling is thus 22 °C. Now, if the external setpoint (nviSetPoint) is 23 °C, then the heating setpoint will shift to 22 °C and the cooling set point to 24 °C. The setpoints for Pre-Comfort heating and cooling will also be shifted accordingly.

nviSpaceTemp: SNVT_temp_p
Room temperature from external room sensor. It is imperative that this variable be linked; typically, it is linked with the variable of the sensor object.

nviOccCmd: SNVT_occupancy
Occupancy specification from the command centre (for the function, see the table "Functions Inputs Occupancy" on the next page).

nviEnergyHoldOff: SNVT_switch
In the case of active EnergyHoldOff, the controller will be set to the Building Protection setpoints.

nviSetPtOffset: SNVT_temp_p
Shifting of the room control unit. If the nviSetPoint is linked, then this input has an influence on the variable value of nviSetPoint, i.e. it corrects it. Otherwise, the Comfort and Pre-Comfort setpoints for heating and cooling will be adjusted directly by the amount of the shift (compare example with nviSetPoint).

nviDewPointAlarm: SNVT_switch
In the case of active DewpointAlarm, the controller will be set to the building protection setpoints. The cooling sequence is deactivated.

nviSenOccCmd: SNVT_occupancy
Occupancy specification from the local occupancy switch (for the function, see the table "Functions Inputs Occupancy" on the next page).

nvoHeatOutput: SNVT_lev_percent
Control signal for heating.

nvoCoolOutput: SNVT_lev_percent
Control signal for cooling.

nvoSpaceTemp: SNVT_temp_p
Displays the room temperature of the nviSpaceTemp. If nviSpaceTemp is not linked, then the variable will display the value 0x7FFF.

nvoUnitStatus: SNVT_HVAC_Status
Displays the operating mode of the controller (in accordance with Functional Profile #8060).

nvoHeatCoolOut: SNVT_lev_percent
Indicates the heating and cooling sequence for controlling the 6-way characterised control valves (see illustration on the next page).
This outlet runs parallel to the
nvoCoolOutput or the nvoHeatOutput, respectively.
Cooling = 33…0%
Valve closed 33…66%
Heating = 66…100%

nvoEffectSetpt: SNVT_temp_p
Shows the actual setpoint of the controller.

Note
A restart is necessary after accessing network variables for the purpose of rewriting them or after deleting links in order to initialise the variables.

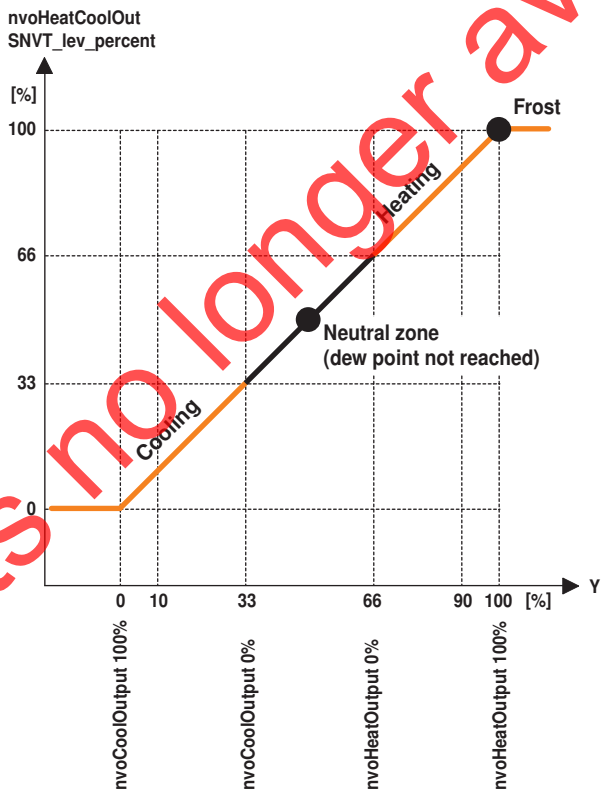
Functional Profile as per LONMARK®

Functions Inlets Occupancy

Occupancy specification from nviOccCmd command centre	Occupancy switch nviSenOccCmd	Room operating status	Comfort extension
OC_OCCUPIED	OC_OCCUPIED	Comfort	
	OC_UNOCCUPIED	Comfort	
	OC_NUL (default)	Comfort	
OC_STANDBY	OC_OCCUPIED	Bypass	Occupied time is modified by the amount of the bypass time (comfort time) (can be adjusted in the plug-in)
	OC_UNOCCUPIED	Pre-comfort	
	OC_NUL (default)	Pre-comfort	
OC_UNOCCUPIED	OC_OCCUPIED	Building protection	
	OC_UNOCCUPIED	Building protection	
	OC_NUL (default)	Building protection	
OC_NUL (default)	OC_OCCUPIED	Comfort	
	OC_UNOCCUPIED	Pre-comfort	
	OC_NUL (default)	Comfort	

Note
The function nviOccCmd has a higher priority than the function nviSenOccCmd.

Function nvoHeatCoolOut



Typical application
Heating / cooling with Belimo 6-way characterised control valve.

Note chilled ceiling application
In the case of active DewPointAlarm (nviDewPointAlarm), the controller will be set to the Building Protection setpoints. The cooling sequence is deactivated.

Note
More detailed information on the Functional Profiles can be found on the website of LONMARK® (www.lonmark.org).

Override control with the SNVT nviManOvrd

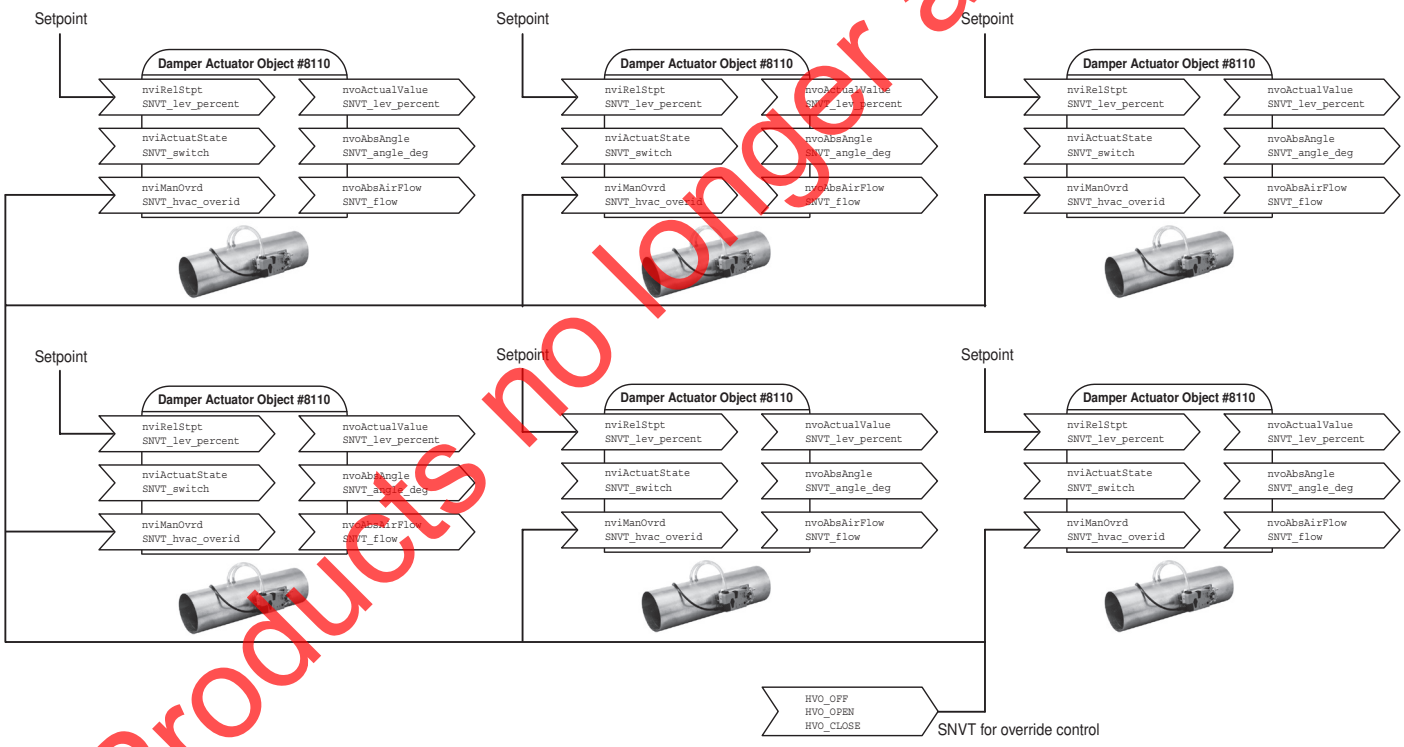
Functions

state	variable used	air flow controller
HVO_OFF	--	no reaction
HVO_POSITION	percent	no reaction
HVO_FLOW_VALUE	flow	0...nciNomAirFlow (liter/sec). The value 0xFFFF represents invalid data.
HVO_FLOW_PERCENT	percent	0%...+100.00% (0.005%). The value 0x7FFF represents invalid data.
HVO_OPEN	--	full open
HVO_CLOSE	--	full closed
HVO_MINIMUM	--	configured flow
HVO_MAXIMUM	--	configured flow
all others	--	not supported

Note
The basic setting is «HVO_OFF».
This value is loaded when the power supply is switched on.

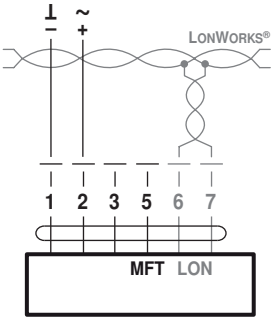
Example

Function	Description
HVO_OFF	Temperature controller setpoints are active
HVO_OPEN	All VAV units are fully open. (e.g. flushing operation or night cooling)
HVO_CLOSE	All VAV units are completely closed (dampers close when system is switched off)

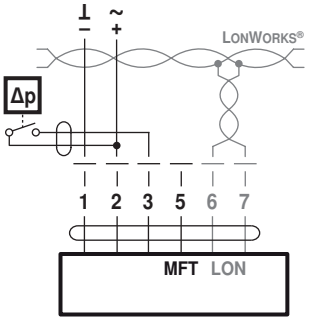


Electrical installation

Connection without sensor

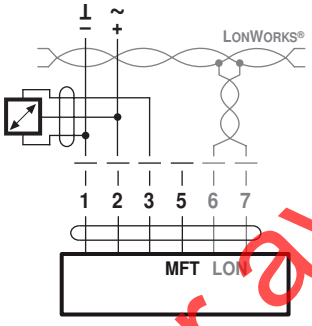


Connection with switching contact, e.g. Δp-monitor



Switching contact requirements:
The switching contact must be able to switch a current of 16 mA at 24V accurately.

Connection of active sensors, e.g. 0...10 V @ 0...50°C

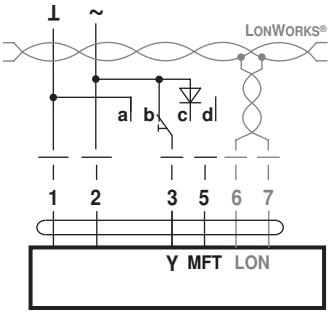


Possible voltage range:
0 ... 32 V (resolution 30 mV)
Sensor scaling:
The sensors can be scaled with the sensor plug-in (sensor table)

Local override control

If no sensor is integrated, then connection 3 (Y) is available for the protective circuit of a local override control.
Options: CLOSED – $\dot{V}_{max}$ – OPEN

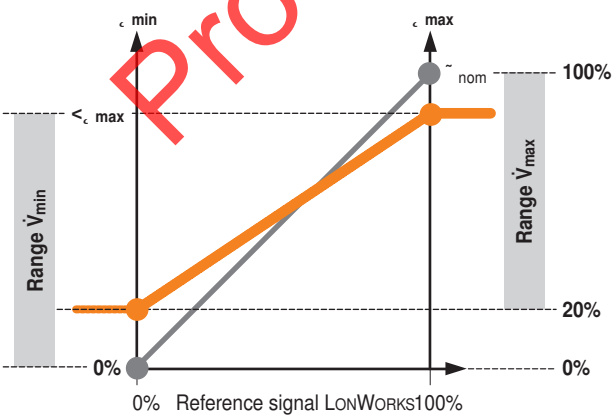
Note: Functions only with AC 24V supply!



a Damper CLOSED
b $\dot{V}_{Max}$
c Damper OPEN
d Bus mode

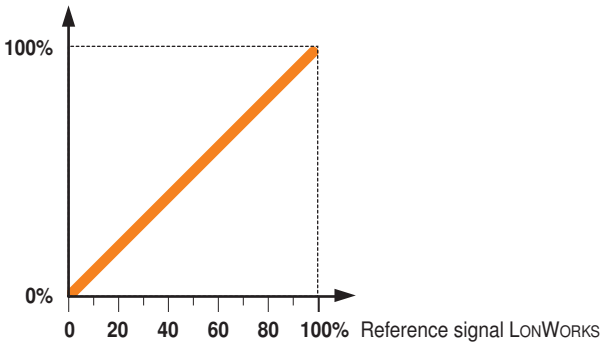
Control functions - VAV / CAV

VAV-operating volumetric flow – Setting and control



Open-Loop (separate external VAV-Control)

Control damper Y



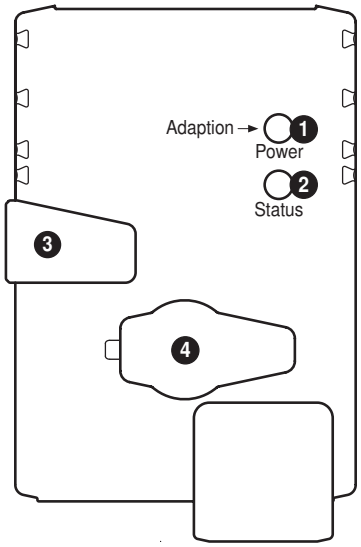
Setting and Tool function

Designation	Adjustment values, limits, explanations	Units	Tools [5]		Remarks
			ZTH EU	PC-Tool	
System specific data					
Position	16 characters e.g.: Office 4 6.OG ZL	Text	r	r/w	
Designation	16 Characters: Unit designation, etc.	Text	r	r/w	
Address (MP)	PP		r/w	r/w	for LONWORKS applications: PP
V̇max	20…100 % [V̇nom]	m³/h / l/s / cfm	r/w	r/w	>/= V̇min
V̇mid	V̇min…V̇max	m³/h / l/s / cfm	r/w	r/w	
V̇min	0…100 % [V̇nom]	m³/h / l/s / cfm	r/w	r/w	</= V̇max
System altitude	0…3000	Meter	r/w	r/w	Adaptation of Δp-Sensor to system altitude (above sea level)
Controller settings					
Controller function	Volumetric flow / open loop		-	r/w	
Mode	0…10 / 2…10	Volt	-	r/w	for LONWORKS applications: 2…10
CAV function [2]	CLOSED/V̇min/V̇max; Shut-off level CLOSED 0.1 V CLOSED/V̇min/V̇max; Shut-off level CLOSED 0.5 V V̇min/V̇mid/V̇max; (NMV-D2M comp.)		-	r/w	not relevant for LONWORKS® applications
Positioning signal Y	Start value: 0.6 ... 30; Stop value: 2.6 ... 32	Volt	r	r/w	not relevant for LONWORKS® applications
Feedback U	Volume / damper position / Δp		-	r/w	not relevant for LONWORKS® applications
Feedback U	Start value: 0.0 ... 8.0; Stop value: 2.0 ... 10	Volt	-	r/w	not relevant for LONWORKS® applications
Response when switched on (Power-On) [4]	No action / Adaption / Synchronisation		-	r/w	
Synchronisation behaviour	Y=0 % Y=100 %		-	r/w	Synchronisation to damper position 0 or 100 %
Bus fail position	Last set point / Damper CLOSED V̇min / V̇max / Damper OPEN		-	r/w	
Unit specific settings *) Write function only available for VAV manufacturer					
V̇nom	0 … 60'000 m³/h	m³/h / l/s / cfm	r	r/(w*)	Unit specific adjustment value
Δp@V̇nom	38 … 450 Pa	Pa	r	r/(w*)	Unit specific adjustment value
Label print function			-	w	Incl. customer logo
Other settings					
Direction of rotation (for Y = 100%)	cw/ccw		r/w [1]	r/w	
Range of rotation	Adapted [3] / programmed 30…95	°	-	r/w	
Torque	100 / 75 / 50 / 25	%		r/w	% of nominal torque
Operating data					
Setpoint / actual value Damper position		m³/h / l/s / cfm Pa / %	r	r	Trend display with print function and data storage on HD
Simulation	Damper CLOSED / OPEN V̇min / V̇mid / V̇max / motor stop		w	w	
Running times	Operating time, running time Ratio	h %	-	r	
Alarm messages	Setting range enlarged, mech. overload, Stop&Go ratio too high		-	r/w	
Series number	Device ID.		r	r	incl. date of manufacture
type	Type designation		r	r	
Version display	Firmware, Config table ID		r	r	
Configuration data					
Print, create PDF			-	Yes	
Save to file			-	Yes	
Log data / book	Activity log		-	Yes	incl. complete setting data

Explanations

1) Access only on operating level 2
2) CAV setting for MP/MF type
3) within the mechanical limit.
4) The first time the supply voltage is switched on, i.e. at the time of commissioning, the actuator carries out an adaption, which is when the operating range and position feedback adjust themselves to the mechanical setting range. The actuator then moves into the required position in order to ensure the volumetric flow defined by the positioning signal.
5) See www.belimo.eu for function and version history.

Display and operation



1 Push-button and LED display green

Off:	No power supply or malfunction
On:	In operation
Press button:	Triggers angle of rotation adaptation

2 Service button for commissioning with LONWORKS® and LED display yellow for LON status

Off:	The actuator is integrated ready-for-operation in the LON network
On:	No application software is loaded in the actuator
Flashing:	The actuator is ready-for-operation but not integrated in the LON network
(flashing interval 2 s)	(unconfigured)
Other flashing codes:	A fault is present in the actuator
Press key:	Service Pin Message is sent to the LONWORKS® network

3 Gear disengagement button

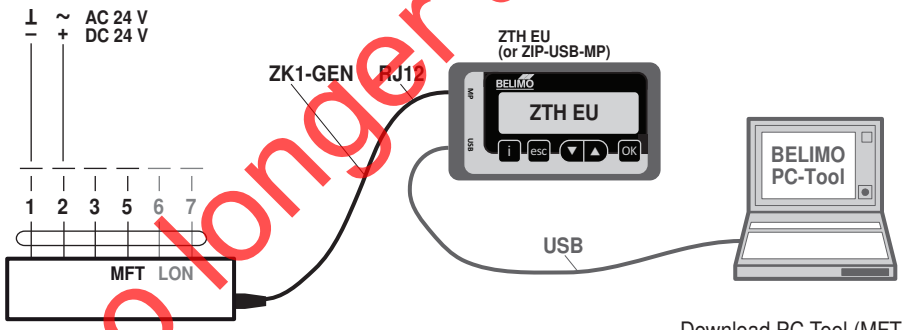
Press button:	Gear disengaged, motor stops, manual override possible
Release button:	Gear engaged, synchronisation starts, followed by standard mode

4 Service plug

For connecting parameterisation and service tools

ZTH / PC-Tool - local service connection

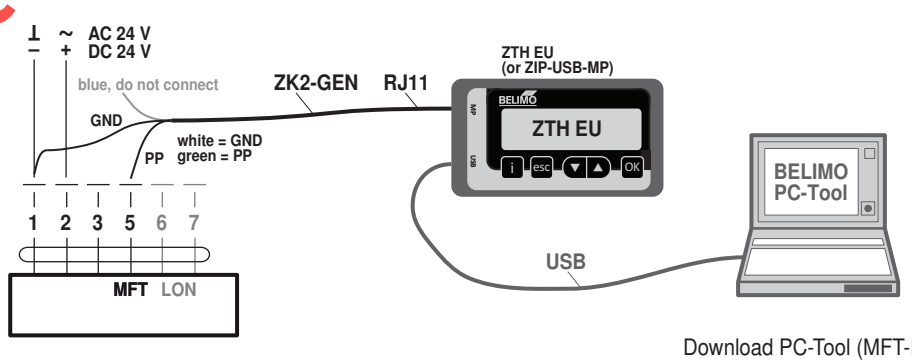
The settings and diagnostics of the VAV-Compact can be performed easily and rapidly with the Belimo PC-Tool or with the ZTH-EU service tool. When using the PC-Tool, the ZTH EU serves as an interface converter.



Download PC-Tool (MFT-P)
from www.belimo.eu

ZTH / PC-Tool - remote connection

The VAV-Compact can communicate with the service tools via the PP connection (wire 5). The connection can be made in operating mode in the junction box or the control cabinet terminals. When using the PC-Tool, the ZTH EU serves as an interface converter.



Download PC-Tool (MFT-P)
from www.belimo.eu

Accessories

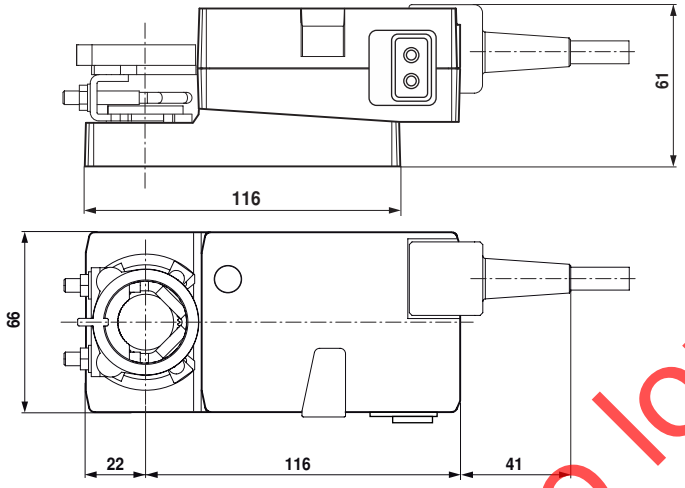
VAV-Compact / VAV-Universal	Description
	VAV-Compact: version with integrated MP-Bus, Modbus and KNX interface
	VAV-Universal: VAV pressure controller, Δp sensors, actuator(spring-return, fast runner, etc.)
	see www.belimo.eu for more information and documentation

Electrical accessories	Description	Type
	Connection cable 5 m, to ZTH / ZIP-USB-MP (RJ12) with service plug	ZK1-GEN
	Connection cable 5 m, to ZTH / ZIP-USB-MP (RJ11) with free wire ends	ZK2-GEN

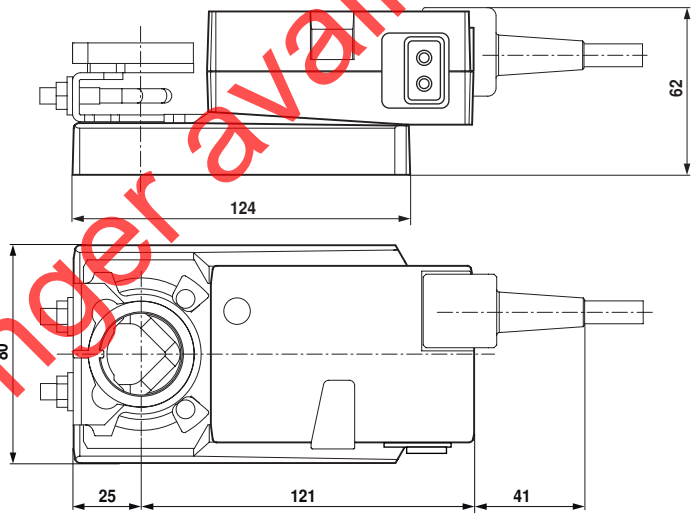
Tools	Description	Type
	Service Tool, for MF/MP/Modbus/LonWorks® actuators and VAV controllers	ZTH EU
	Belimo PC-Tool, software for adjustments and diagnostics	MFT-P

Dimensions [mm]

Dimensional drawings LMV-D3LON



Dimensional drawings NMV-D3LON



Further documentation

- Applications with integrated temperature controller
- LON actuator with CO_2 control
- Description Actuator Plug-in
- Description Sensor Plug-in
- Description Controller Plug-in
- Tool connections
- LonWorks®: Glossary

VAV-Compact
Model overview / feature comparison

BELIMO

	-MF	-MP	-KNX	LON	-MOD
		MP-BUS	KNX	LonMark	BACnet Modbus
Field of application: Supply and exhaust air in the comfort zone and sensor-compatible media	X	X	X	X	X
AC/DC 24 V supply	X	X	X	X	X
Integrated Δp sensor, dynamic D3, measuring range:	–20…500 Pa	–20…500 Pa	–20…500 Pa	–20…500 Pa	–20…500 Pa
Actuator variants: – Rotary actuator – Linear actuator	5 / 10 Nm –	5 / 10 / 20 Nm 150 / 200 / 300 mm	5 / 10 / 20* Nm 150 / 200 / 300 mm	5 / 10 / 20* Nm 150 / 200 / 300 mm	5 / 10 / 20* Nm 150 / 200 / 300 mm
VAV function $\dot{V}_{min}$ … $\dot{V}_{max}$	X	X	X	X	X
CAV stages $\dot{V}_{min}$ / $\dot{V}_{mid}$ / $\dot{V}_{max}$	X	X	–	–	–
Open Loop (external V control)	X	X	X	X	X
DCV (Optimiser function)	–	DDC MP Partners Belimo fan optimiser	Yes, programmable	Yes, programmable	Yes, programmable
Analog control	0/2...10 V	0/2...10 V	–	–	0/2...10 V
With bus control	–	X	X	X	X
Bus specification	–	Belimo MP bus	KNX S-mode	LONWORKS® FTT-10A	Modbus RTU / BACnet MS/TP / RS485
Direct integration DDC MP Partners	–	X	–	–	–
Integration via Gateway – BACnet – KNX – LONWORKS® – Modbus RTU	–	 X X X X	–	–	–
Number of bus devices	–	8 per strand	64 per line segment	64 per bus segment	32 per strand
Sensor integration – passive (resistance) – active (0…10 V) – Switching contact	– 	 X X X	 – X X	 – X X	 – X X
Optional control function		–	–	Temperature / CO_2	–
Local forced (override)	–	CLOSED / $\dot{V}_{max}$ / OPEN	CLOSED / $\dot{V}_{max}$ / OPEN	CLOSED / $\dot{V}_{max}$ / OPEN	CLOSED / $\dot{V}_{max}$ / OPEN
Aids	–	MP-Bus Tester MP Monitor	ETS Product database	–	–
Integration tools	–	PC-Tool	ETS	LNS Tool + Plug-in	…
TypeList function (Retrofit, OEM)	–	X	(–)	(–)	(–)
Tool connection (U – PP/MP)	PP	PP/MP	PP	PP	PP
Service socket ZTH / PC-Tool	X	X	X	X	X
NFC interface	–	X	–	–	–
Assistant App	–	X	–	–	–
Service tool ZTH EU	X	X	X	X	X
PC-Tool – Parameter – Save data – Trend, Logbook – Label Print	X	X	X	X	X

* on equest