

Product overview

The T24-V42(-V02)LON room control module is specifically designed for VAV applications with direct link to LonWorks® network.

Features

- Onboard LED indication without cover removal
- Built-in room control applications
- PI control algorithm
- Normal/economy/standby mode selections
- Extensive network interoperation capabilities



Brief description

The T24-V42(-V02)LON room control module offers the advantages of network control via the high performance LON transceiver. This controller features screw terminal blocks, analogue input, digital input, analogue output, three 24Vac digital outputs, MP-Bus interface for connection to the Belimo VAV Compact and optional T24-MP room unit or TG-R10000 room sensor. Suitable for new or existing VAV system installations.

The T24-V42(-V02)LON room control module conforms to the LonMark® communication protocol for open communication and interoperability with third party LonMark® devices, providing greater freedom in system design.

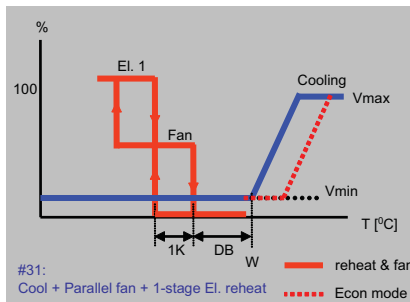
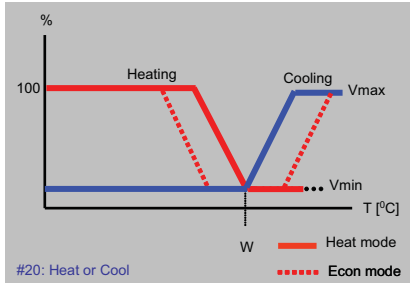
Technical data

Nominal voltage		AC 24 V 50/60 Hz
Power supply range		AC 19.2...28.8 V
Wiring terminals		Screw terminals, 0.5...2.5mm ²
Power consumption:	T24-V42LON	6.0 VA @ 24Vac, 50/60 Hz
	T24-V02LON	3.5 VA @ 24Vac, 50/60 Hz
Communication - LON		LonTalk® protocol
Functional profile		According to LonMark® / SFPTvariableAirVolume object #8010
Processor / Memory		Neuron 3150® ; 10 MHz ; 64kb flash memory input/output control
Transceiver		Echelon® , Free topology transceiver (FT-X1)
Media channel		TP/FT-10; 78 kbps
Service button and status LED		According to LonMark® guidelines
Conductors, cables		Conductor lengths, cable specifications and topology of the LonWorks® network according to Echelon® directives
Communication - MP		Standard Belimo MP connection
Input / output control (AO, DO not available for T24-V02LON)		Analog input x 1 (Type NTC, 10kOhm@25 °C, sensing range 0...40 °C) Analog output x 1 (2...10 V, max. 5mA) Digital input x 1 (Dry contact, max. 10mA) Digital output x 3 (24Vac, SELV, max. 1A)
Application selection		Application number selectable via T24-MP room sensor; can be overridden by BMS
LED indications		- Power - Digital output 1 ~ 3 (Only for T24-V42LON) - LonWorks® communication status
Protection class		III Safety extra-low voltage
Degree of protection		IP20
LV Directive		CE according to 73/23/EEC
EMC		CE according to 89/336/EEC
Ambient conditions		0...+50 °C
Non-operating temperature		-10...+60 °C
Ambient humidity range		5...95% rH, non-condensing
Weight:	T24-V42LON	240 g
	T24-V02LON	225 g
Dimensions (L x W x H)		130 x 57 x 106 mm
Mounting		Screws provided or DIN rail 35mm



Do not open the control module cover
No serviceable parts inside
To be opened by accredited servicing agents only

Application number selection



No. 10	Cool only	No. 51	Cool and parallel fan with 3 point reheat, with deadband and 1K reheat switching differential
No. 20	Cool or heat	No. 61	Cool and parallel fan with modulating reheat, with deadband and 1K reheat switching differential
No. 30	Cool and electric reheat, 1K reheat switching differential	No. 12*	Cool only
No. 40	Cool and electric reheat 2 stages, 1K reheat switch differential	No. 22*	Cool or heat
No. 50	Cool and 3-point reheat, with deadband	No. 32*	Cool and electric reheat, 1K reheat switching differential
No. 60	Cool and modulating reheat, with deadband	No. 42*	Cool and electric reheat 2 stages, 1K reheat switching differential
No. 21	Cool and parallel fan, with deadband	No. 52*	Cool and 3-point reheat, with deadband
No. 31	Cool and parallel fan with electric reheat, deadband and 1K reheat switching differential	No. 62*	Cool and modulating reheat, with deadband
No. 41	Cool and parallel fan with electric reheat 2 stages, with deadband and 1K reheat switching differential	*with series fan	

xxx Only available for T24-V02LON

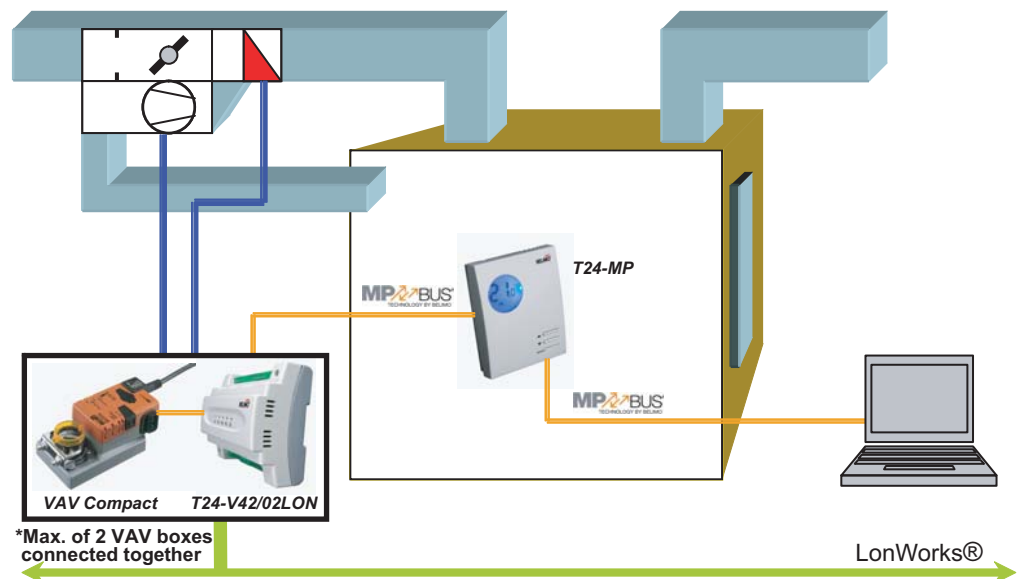
The above room control applications are pre-stored in the T24-V42(-V02)LON room control module. Application number can be selected via the T24-MP room unit through MP-Bus commands. (Factory setting = 10)

Detailed information can be found in application sheet document.

Status output by room control module

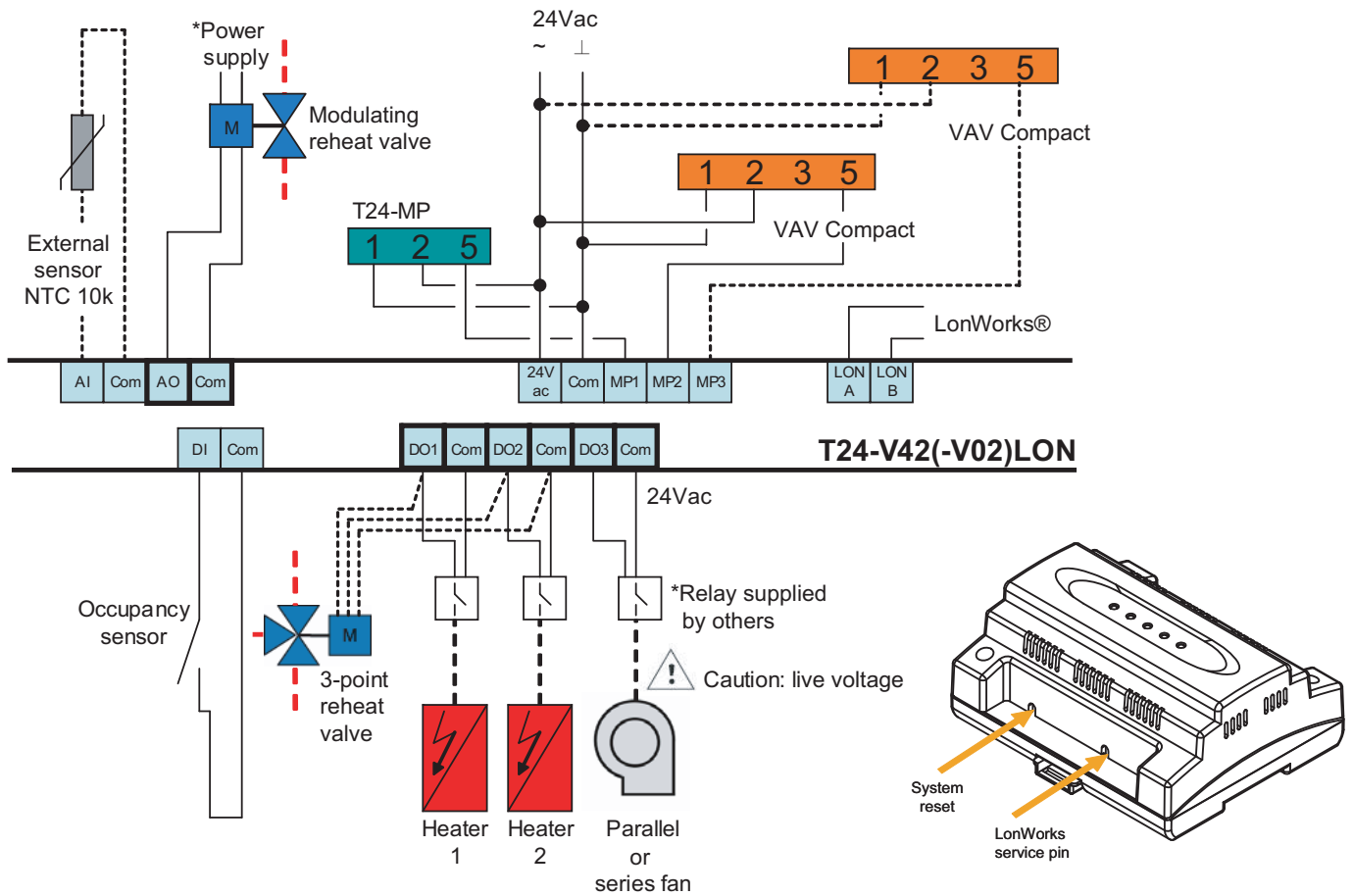
If the T24-V42(-V02)LON room control module communicates with the building management system (BMS) via LonTalk® protocol then the following status information or reset values will include:

- Heating / cooling mode status
- Heating / cooling setpoint
- Operating mode
 - Normal
 - Standby
 - Override
 - Economy
- Room temperature value
- Temperature setpoint
- Fan status
- Heater status
- Air flow value in %
- Damper position in %



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Wiring diagram



xxx Not available for T24-V02LON

Detailed information can be found in application sheet document

Input & output assignment

Inputs

- AI External temp. sensor TG-R10000 *
- DI Remote setpoint shift, e.g. Occupancy sensor *
Open - Normal mode, Close - Economy mode

* Optional

Outputs

- AO Modulating reheat control 2...10Vdc
- DO1 Heating output I 24Vac ON/OFF
- DO2 Heating output II 24Vac ON/OFF
- DO3 Parallel or series fan output 24Vac ON/OFF

Dimensions [mm]

