

Product overview

The T24-V42(-V02)BAC Room Control Module is specifically designed for VAV applications with direct link to BACnet® network.

Features

On-board LED indication without cover removal
 Built-in room control applications
 PI control algorithm
 Operating modes: Normal, Economy and Standby
 Minimum setpoint limitation
 Memory storage



Brief description


The T24-V42(-V02)BAC Room Control Module offers the advantages of network control via BACnet® Master-Slave/Token-Passing (MS/TP) protocol. This controller features memory storage, analogue input, digital input, analogue output, 3 x AC 24V 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)BAC Room Control Module conforms to the BACnet® MS/TP protocol for open communication and interoperability with third party BACnet® devices, providing greater freedom in system design.

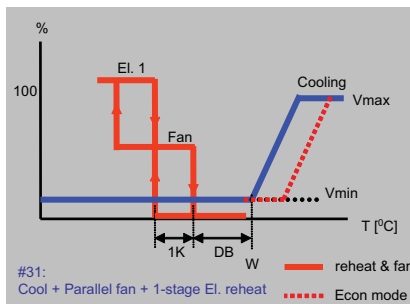
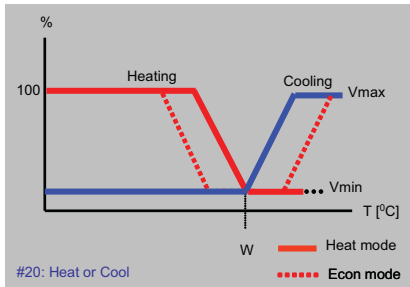
Technical data

Nominal voltage		AC 24V 50/60Hz
Power supply range		AC 19.2...28.8V
Wiring terminals		Screw terminals, 0.5...2.5mm ²
Power consumption:	T24-V42BAC	6.0VA @ AC 24V, 50/60 Hz
	T24-V02BAC	3.5VA @ AC 24V, 50/60 Hz
Communication - BACnet®		Master-Slave/Token-Passing (MS/TP) protocol
Functional profile		BACnet Application Specific Controller (B-ASC)
Firmware		Native BACnet® firmware
Band rate (Auto detection)		9,600, 19,200, 38,400 (default) or 76,800bps
Network address		Max. can support up to 0x7F (default = 0x7F)
Device address		Max. can support up to 0x3F FF FF (default = 0x00 00 00)
Conductors, cables		22AWG standard, 3-wire twisted, Shielded cable Cable length in accordance with BACnet® bus standard
Communication - MP-Bus		Standard Belimo MP connection
Input / output control		Analog input x 1 (Type NTC, 10kOhm@25°C, sensing range 0...40°C)
(AO, DO only available for T24-V42BAC)		Analog output x 1 (2...10V, max. 5mA) Digital input x 1 (Dry contact, max. 10mA) Digital output x 3 (AC 24V, 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-V42BAC) - BACnet® communication status
Protection class		III Safety extra-low voltage
Degree of protection		IP20
Low-voltage directive		CE according to 2006/95/EC
EMC directive		CE according to 2004/108/EC
Ambient conditions		0...+50°C
Non-operating temperature		-10...+60°C
Ambient humidity range		5...95% RH, non-condensing
Weight:	T24-V42BAC	250g
	T24-V02BAC	230g
Dimensions (L x W x H)		130 x 106 x 49.2mm
Mounting		2 x Screws provided or DIN rail 35mm



To be opened by accredited servicing agents only
 Electronic control - Type 2.B action (micro-disconnection operation)
 Separate collection for electrical and electronic equipment 

Application number selection



No. 10	Cool Only	No. 51	Cool + parallel fan 3-point reheat with deadband 1K reheat switching differential
No. 20	Heat (or Cool) **	No. 61	Cool + parallel fan Modulating reheat with deadband 1K reheat switching differential
No. 30	Cool Electric reheat 1 stage with deadband 1K reheat switching differential	No. 12*	Cool Only + series fan
No. 40	Cool Electric reheat 2 stages with deadband 1K reheat switch differential	No. 22*	Heat (or Cool) + series fan **
No. 50	Cool 3-point reheat with deadband	No. 32*	Cool + series fan Electric reheat 1 stage with deadband 1K reheat switching differential
No. 60	Cool Modulating reheat with deadband	No. 42*	Cool + series fan Electric reheat 2 stages with deadband 1K reheat switching differential
No. 21	Cool + parallel fan with deadband	No. 52*	Cool + series fan 3-point reheat with deadband
No. 31	Cool + parallel fan Electric reheat 1 stage with deadband 1K reheat switching differential	No. 62*	Cool + series fan Modulating reheat with deadband
No. 41	Cool + parallel fan Electric reheat 2 stages with deadband 1K reheat switching differential		

xxx T24-V02BAC functions under in Application 10 & 20

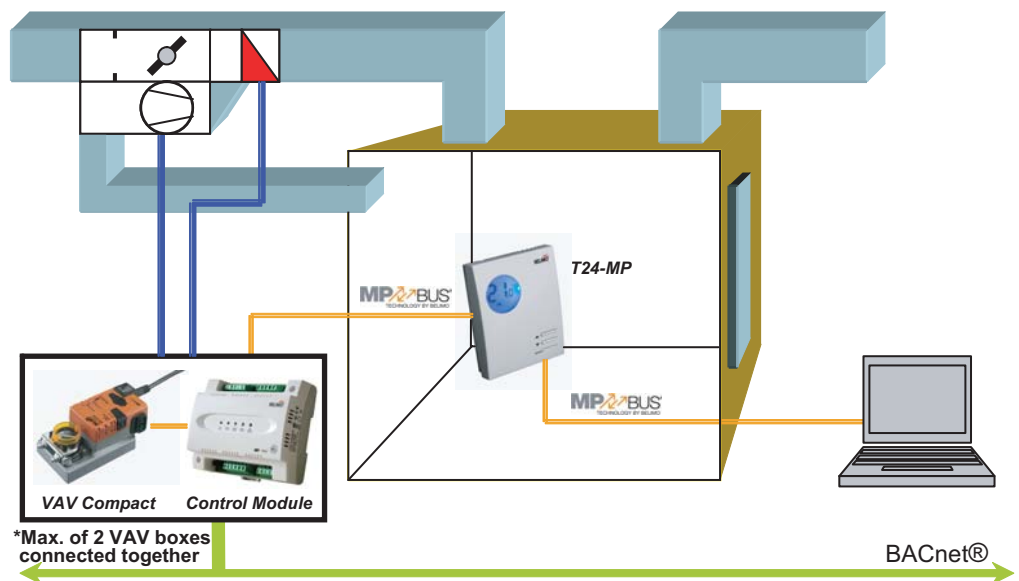
The above room control applications are pre-stored in the T24-V42(-V02)BAC Room Control Module. Application number can be selected via the T24-MP Room Unit through MP-Bus commands or by communication network BACnet. (Factory setting = 10)

Detailed information can be found in operation manual.

Status output by room control module

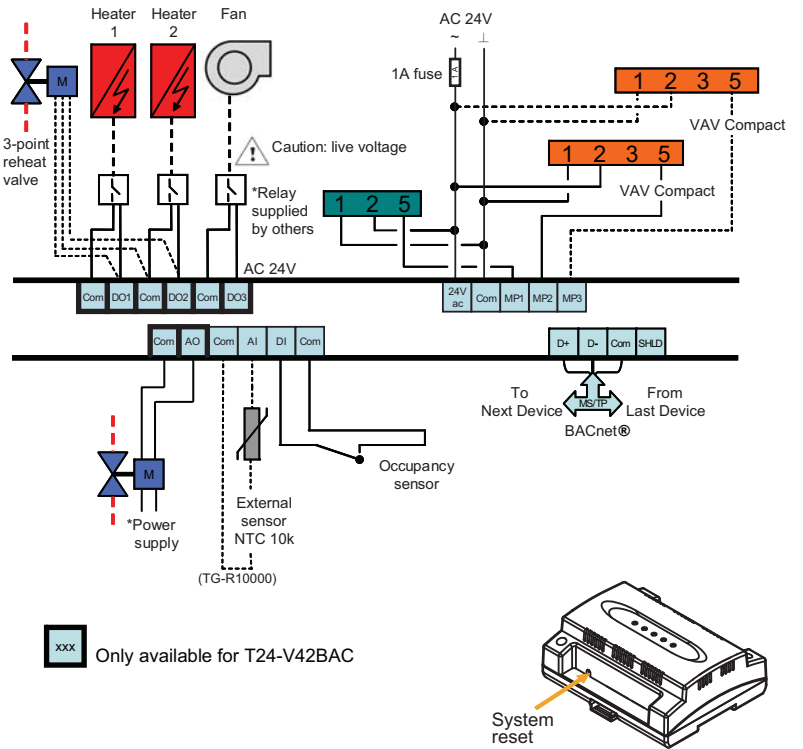
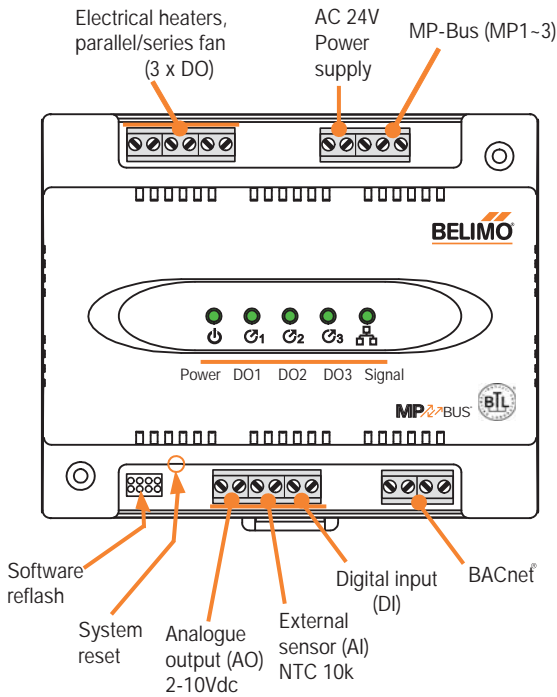
When the T24-V42(-V02)BAC Room Control Module communication with the building management system (BMS) via BACnet® protocol, then the following information or reset values will included:

- Heating / cooling mode status
- Heating / cooling setpoint
- Operating mode
 - Normal
 - Standby
 - Override
 - Economy
- Room temperature value
- Fan / heater status
- Temperature setpoint
- V'min, V'max value setting
- Relative flow control in %
- Air flow value in CFM
- Damper position in %



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Wiring diagram



Input & output assignment

Inputs

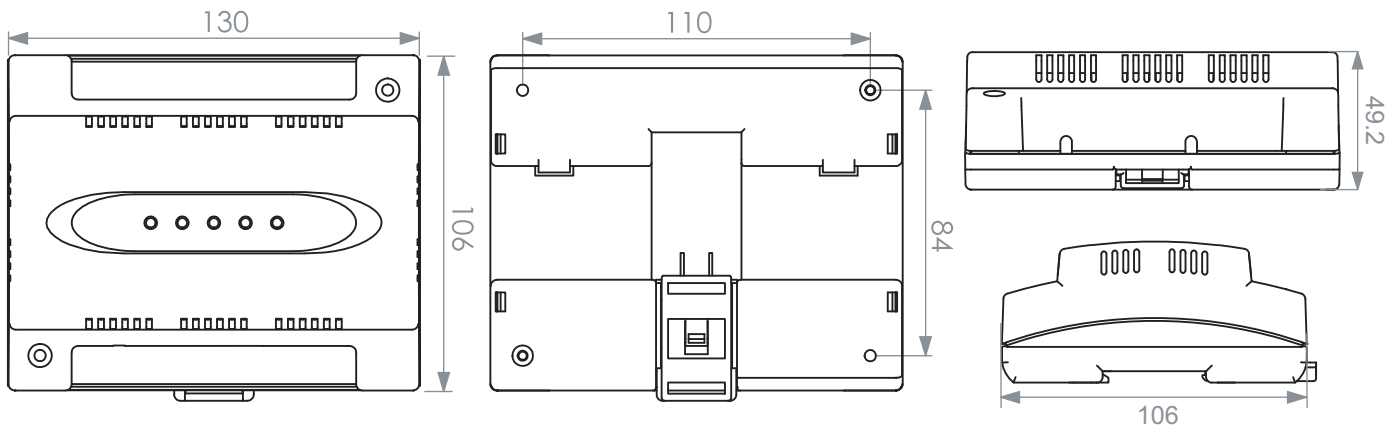
- AI External temp. sensor TG-R10000 *
- DI Remote setpoint shift, e.g. Occupancy sensor *
 Open - Normal mode, Close - Economy mode

* Optional

Outputs

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

Dimensions [mm]



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