

ENERGY SAVING REGULATOR FOR 2 FREE COOLING FANS VARIABLE SPEED



TC2M

**FOR: TEMPERATURE CONTROL OF A ROOM
USING 2 FREE COOLING
FANS AND 1 EMERGENCY AIR CONDITIONER**

Operation

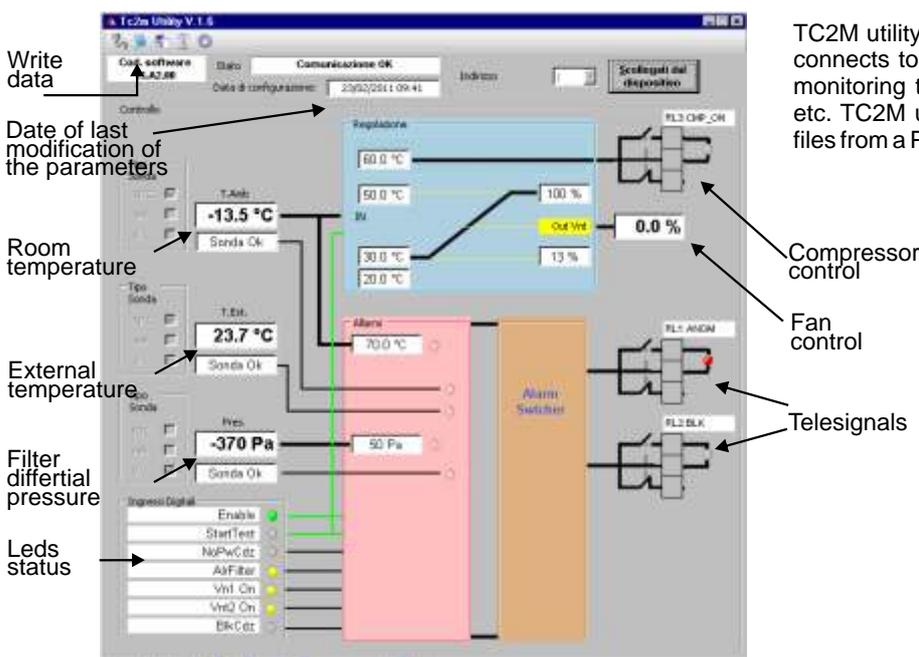
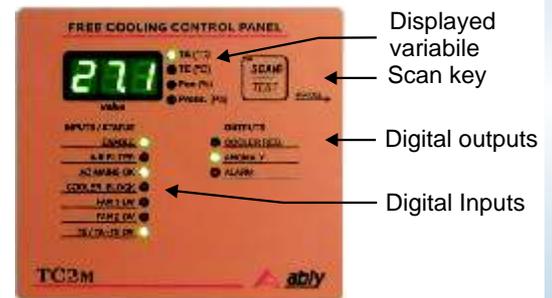
TC2M detects the external temperature [TE] and the internal temperature [TA] of the room, manages and controls the analog speedometer to 2 free cooling fans, generates the command to activate the air conditioner and it detects the locked state. Detects digital signals: dirty air filter, power failure, enabling the adjustment.

TC2M diagnoses of malfunctions: probes, fans and air conditioning. The fault conditions are reported locally by the activation of the alarm relay and fault agreed to the allocation made in the programming stage. You can then assign the fault / defect in one or more relay outputs.

TC2M can be programmed from the supervisor, bus RS-485 or RS-232, and PC through local programming tool TC2m Utility, intuitive and easy to use.

HMI

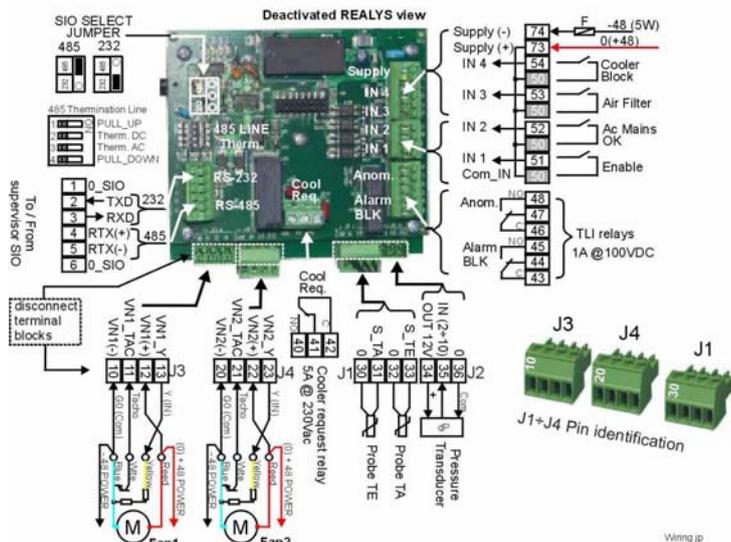
The display shows the primary variable [TA], pressing the SCAN button is displayed, in sequence, values: [TE], %-controlled fan, the pressure differential (if the pressure differential is equipped). The LEDs on the front panel display the status of digital inputs, the operating status of the fans, the condition (TA-TE) OK, the status of the relay outputs.



TC2M utility is a program for PC (OS Windows XP, 2000) that connects to the TC-2 via the serial port. The program allows: monitoring the state of operation, acquired values, set points etc. TC2M upload data from files on your PC, download data files from a PC The configuration data is updated automatically.

WIRING DIAGRAM

TC2m WIRING DIAGRAM and board Layout

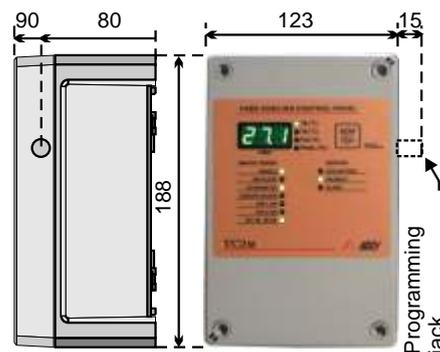


I/O AVAILABLE

- 2 NTC 10Kohm inputs
- 1 2÷10V input
- 2 tachometer inputs
- 4 digital inputs
- 2 PWM outputs for fans
- 2 relays for remote signaling
- 1 control relay
- 1 RS-485/232 serial

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- Supply Voltage:** 48Vdc (36÷70Vdc); Ripple max 20%; Power: 4 W (Max); Insulation 1KVdc
- Input probe:** Ntc 10Kohm@25°C; range -13÷75 °C; Measurement resolution: 0,1°; precision +/- 0,3°C@25°C
- TLI relays:** 1A@100Vdc resistive load.
- Control relay:** 5A@230Vac resistive load.
- Running temp:** 0°C ÷ 70°C ;
- Storage temp:** -20°C ÷ 85°C
- Running % R.H.:** 95% Rh @60°C, not condensing, 24 hour; in storage: 95% Rh @60°C, nt condensing, 96 hour
- Signal connections:** disconnect terminal blocks cavo 0,25÷0,5 mmq
- Command connections:** screw terminals cavo 0,25÷2,5 mmq
- Enclosure protection:** IP 30;
- Connections protection:** IP 10
- Flammability class:** UL 94,V0
- Vibration:** IEC68 part 2-6; IEC68 part 2-27
- ABS box for wall mounting flame retardant.
- Dimensions: H 188 W 123 D 90 mm.
- Weight: 80g



ORDER CODES

Code	Descriptions
802E0070	Tc2m Energy saving controller to control two fans and a free cooling air conditioner, power supply 48 Vdc
42000060	10K NTC temperature sensor, cable length 2m (for room temperature)
42000050	10K NTC temperature sensor for relief outside execution in Hermetic box
800PR250	Differential pressure sensor analog-to-250Pa to +250 Pa out 2 10V pow. 12Vdc
410000T0	Differential pressure switch on-off 0.2 ÷ 3.0 mB
TUTLTC2M	Programming kit for TC2m, OS Win XP PC with USB-RS-232 converter and extension cables
5000003G	Fuse kit



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UNI EN ISO 9001:2008