

Controls for terminal units

Full CONTROLS

Tax incentives*

The Full Control adjustment system meets to all the adjustment needs of our UTNA -UTNR A and HE Platinum comfort range units, from the most basic models through to fully equipped ones.

MAIN CONTROL LOGIC SETTINGS

Temperature adjustment at a fixed delivery point (primary air)

The Tm fixed point probe controls the delivery temperature using the modulating actuator of the control valve.

"Sliding" adjustment of the delivery temperature according to the ambient set-point (all air)

Depending on the difference between the ambient temperature and the set-point, established at settable authority level, the delivery set-point is re-calibrated. This function allows the performance of a control loop with a high degree of difficulty to be improved, thereby reducing the delay with which the ambient/return probe indicates the interference that occurs in delivery and is used as a base when the ambient temperature is to be set.

Result

The air delivery temperature varies according to the difference between the actual ambient temperature and that prescribed.

Benefits for the end user

The ambient temperature control is faster and more accurate, and the gap on the ambient set-point is smaller than that achieved with separate ambient/return temperature adjustment.

Antifreeze protection function

The TAG antifreeze thermostat protects the coil from frost (in case of intervention) when the outdoor air damper closes and the unit stops

Filter clogging monitoring

The cleanliness and healthiness of the filters is constantly monitored by the differential pressure switch as required by the relevant EU regulation

2-pipe systems

In case of the mixed coil, the season must be selected from the control panel or the remote selector. The S/W selector also lets you exclude antifreeze protection while the coil is powered by cold water.

4-pipe systems

The hot and cold valve control is in automatic sequence, with central dead band to prevent instability.

Delivery summer temperature compensation in relation to the outdoor one

Ambient/return humidity adjustment

The humidity probe on the return line controls humidity. During winter, it adjusts the steam humidifier delivery. During the summer period it acts on the actuator of the cold coil control valve, thereby adjusting performance.

Free-cooling temperature

This type of function is ONLY possible if you have selected a unit with heat recovery and it is set to achieve maximum savings.

Energy will be saved in systems with internal foreign heat production in cooling mode since the typical outdoor temperatures of the winter or mid seasons (approx. 10 to 20°C), the ambient temperature regulator controls the outdoor air and exhaust dampers on opening and recirculation ones on closing, thereby eliminating the added heat with a corresponding percentage of outdoor air. The function must be activated on start-up.

Controls for dampers

- KPOTS - Remote potentiometer for damper calibration.
- KLS - Damper manual command lever.

Probes

- KATS - Ambient air NTC temperature probe (in the diagrams: TA).
- KDTS - NTC temperature probe from the channel (in the diagrams: TM/TR/TX).
- KOTS - Outdoor air NTC temperature probe (in the diagrams: TE).
- KDHS - Active humidity probe from channel with 0/10Vdc signal (in the diagrams: TUR/TUM).
- KATHS - Ambient temperature/humidity probe (in the diagrams: TUA).
- KDTHS - Channel temperature/humidity probe (in the diagrams: UR/UM).
- KAVOCS - Ambient IAQ VOC probe (in the diagrams: IAQ).
- KDVOCS - Channel IAQ VOC probe (in the diagrams:

IAQ).

- KAIAQS - Ambient IAQ VOC+CO2 probe.
- KDIAQS - Channel IAQ VOC/CO2 probe.

Mixing/diverter 3-way ball PN40 VALVE.

With body and shaft in brass and chrome plated brass ball.

Sealed with an EPDM ring,

female THREADED hydraulic connections

• KV3V15-x_x - 3-WAY threaded VALVE. DN15 kv from 1.6 to 6.3 depending

on sizes.

- KV3V20-6_3 - 3-WAY threaded VALVE DN20 kv 6.3.
- KV3V25-10 - 3-WAY threaded VALVE DN25 kv 10.
- KV3V32-16 - 3-WAY threaded VALVE DN32 kv 16.
- KV3V40-25 - 3-WAY threaded VALVE DN40 kv 25.
- KV3V50-xx - 3-WAY threaded VALVE DN50 kv 40 or 63 depending on

sizes.

Adjustment 2-way ball PN40 VALVES.

With body and shaft in brass and chrome plated brass ball.

Sealed with an EPDM ring,

female THREADED hydraulic connections.

• KV2V15-x_x - 2-WAY threaded VALVE. DN15 kv from 1.6 to 6.3 depending

on sizes.

- KV2V20-6_3 - 2-WAY threaded VALVE DN20 kv 6.3.
- KV2V25-10 - 2-WAY threaded VALVE DN25 kv 10.
- KV2V32-16 - 2-WAY threaded VALVE DN32 kv 16.
- KV2V40-25 - 2-WAY threaded VALVE DN40 kv 25.
- KV2V50-40 - 2-WAY threaded VALVE DN50 kv 40.

Actuators for modulating control adjustment

BALL valves 0/10Vdc power supply 24Vac

- KVMM25 - ACTUATOR V.DN MAX25 24V 0-10Vdc.
- KVMM50 - ACTUATOR V.DN MAX50 24V 0-10Vdc.

Actuators for On/Off valves, 230V, TO BE CONTROLLED WITH

2-position control FANCOIL THERMOSTATS

• KV0M25 - ACTUATOR V. DN MAX 25 230V On/Off SPDT.

• KV0M025 - ACTUATOR V. DN MAX 25 230V On/Off RET. SPST SPRING.

• KV0M050 - ACTUATOR V. DN MAX 50 230V On/Off RET. SPST SPRING.

ACTUATORS FOR MODULATING DAMPERS 0-10V 24V

• KDMaXs - ROT. DAMP. ACTUATOR 2/7/18Nm

modulating

with spring return 24V

• KDMaX b - ROT. DAMP. ACTUATOR 5/10/15Nm modulating

without spring return 24V

ACTUATORS FOR ON-OFF DAMPERS 24V

• KD0AxS - ROT. DAMP. ACTUATOR 2/7/18 Nm on/off

with spring return 24V

User panels

With these accessories, all active adjustment functions can be easily managed by means of clear and intuitive symbols and icons including: editing setpoints, managing summer/winter season switch and ON/OFF control, managing ventilation, displaying temperature, humidity and all the values measured by the connected probes, setting a weekly hourly program or a timer for prolonged absence (holiday mode), viewing

alarms, resetting alarms, manually positioning any motorised, modulating control dampers.

All Panel controls are used for box recessed installation (BTicino 506 type). You can customise the terminal to elegantly fit it in the rooms using the KCW or KCB plates specified in the price list, or the numerous Bticino "Living" and "Light" range plaques.

KHMIG - Vgraph control panel. Interface terminal with black monochrome graphic display with LED backlighting.

- KHMIR - Control panel with ambient temperature probe (Vroom).

In addition to the functions of the previous control panel implemented a temperature probe in the panel.

- KCW - White decorative plate for control panel.
- KCB - Black decorative plate for control panel.
- KWMS - Wall mounting installation support for control panel.

Electrical panel in a resin case, with IP55 protection, compliant with IEC EN 60204-1, complete with:

- DDC programmable microprocessor regulator that can manage up to 40 I/O with Rhoss software and configuration, specifically designed to ensure proper automatic control of all the functions to be managed on the

machine, by continuously comparing the set values and the temperature and humidity conditions detected by the sensors. The adjustment, optimised with plus integral (PI) proportional-type algorithms, assures accurate and safe operation of the air handling unit.

The regulator is equipped with a Real Time Clock to set the date, time and time program, with a backup coil to keep the saved data even in case of a prolonged power cut (up to 2 days). Interfaced with BMS Integrated as standard with Modbus RTU protocol.

- Main disconnecting switch.
- Fuse holders to protect single-phase fan motors with power up to 1.6 kW, with disconnection function for phase and neutral on opening (*).
- Motor protection fuses for the motor of a rotary recovery, the 230/12V transformer and the 24V auxiliary circuit.
- Relay to control various utilities.
- Spring terminal blocks with removable connectors for quick connection of all components on the machine.
- Electrical supply 1F+N 230V 50Hz.
- Auxiliary power supply with a converter transformer 230/12-24V.

(*) For higher powers and three-phase loads, it is necessary to add an

external panel with specific protective and operating devices.

- KRFCs - Full Control power and regulation electrical panel for UTNA-UTNR-Platinum Single-phase Max Pow. 2x1.6 kW.

KDTR - Can be used with all UTNA-V-R with 1 coil.

Simple and reliable controller to be installed in the delivery channel, in the same case which already holds the temperature probe; designed to control simple air handling units operating at a fixed delivery point. Operating range 0-50°C:

- KPOTR - Remote potentiometer for damper recalibration (in combination with KDTR).

AMBIENT regulators for wall mounting, with software application,

display, room probe, RS485 serial sheet and clock to

manage up
to 9 I/O.

- KRCA1 - Room regulator with integrated temperature probe to control the following functions:
 - 2 modulating coils, antifreeze, 1 modulating damper, 1 on/off resistance
 - modulating coils, antifreeze, 1 modulating fan, 1 on/off resistance
 - 2 modulating coils, antifreeze, 1 modulating resistance, 1 on/off fan
 - 2 modulating coils, antifreeze, 1 modulating fan, recovery bypass
- KRCA2 - Room regulator with integrated temperature probe to control the following functions:
 - 2 modulating coils, antifreeze, 1 on/off fan, 1 aux. on/off control.
 - 2 modulating coils, antifreeze, 1 on/off fan, recovery bypass, 1 aux. on/off control.
 - 2 modulating coils, antifreeze, 1 on/off resistance, recovery bypass, 1 aux. on/off control.

Technical data



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