

UCU Room Display

The **UCU Room Display** provides dedicated visually appealing Room Control display for use with UCU10FC/K Unitary Controller.

The display allows the user to view and adjust selected parameters within the controller to which it is connected.

While the display can be used for local control, the UCU10FC can be easily integrated into the UntronUC32 system architecture.

It avoids the need for mains cabling between the display and the Fancoil equipment, by separating the display from the control function. All mains cabling is contained within the Fancoil equipment, while a lightweight serial connection joins the Display to the controller.



Features

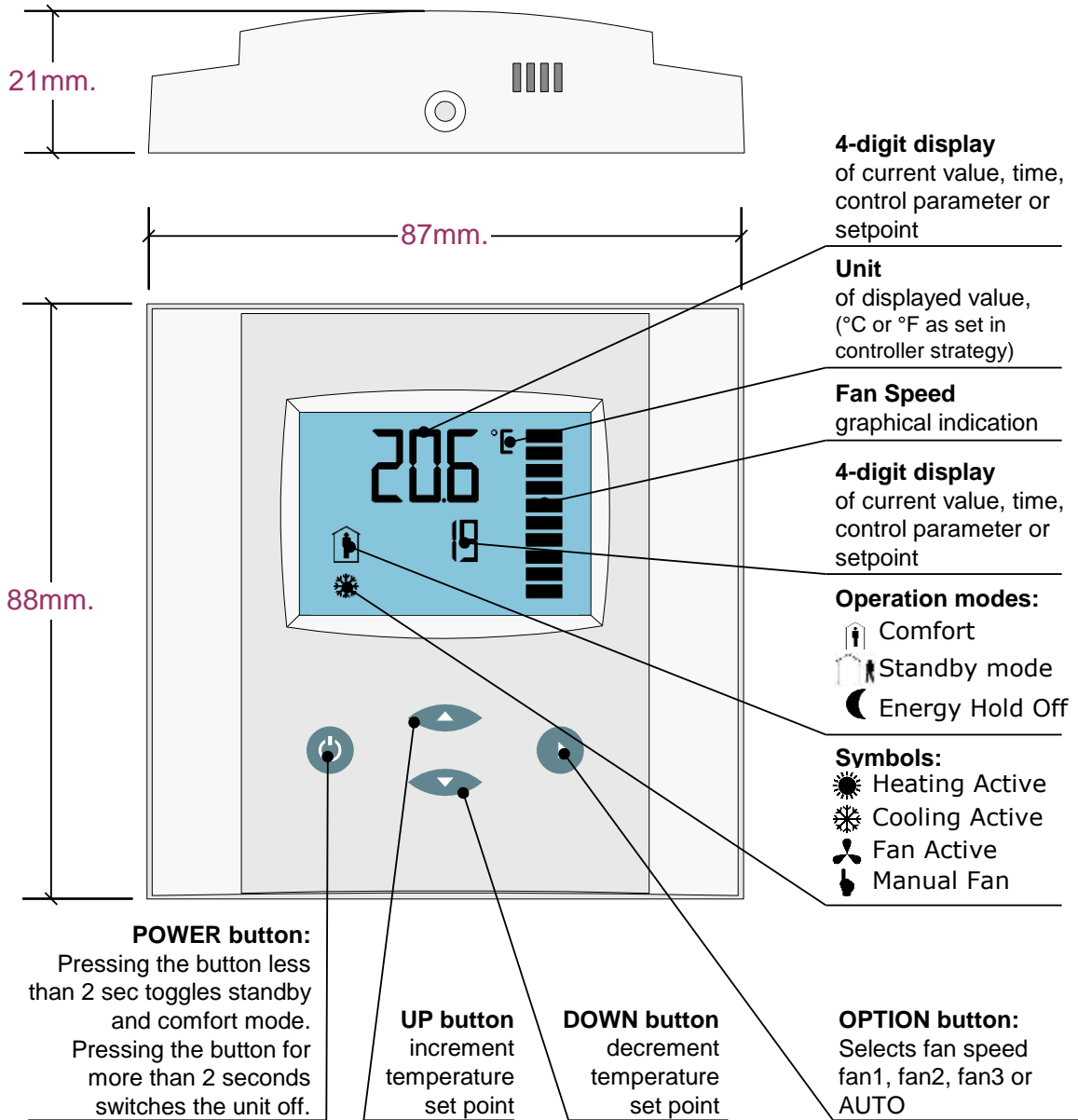
- Local view and adjustment of specified room parameters
- Integrated space temperature sensor
- Mounts onto standard pattress box

Applications

A numeric user interface that allows occupants to monitor and adjust comfort conditions within individual rooms and zones

Operation Modes

- **Comfort:** The associated UCU10FC/K is operating within its occupied parameters. Temperature setpoint, fanspeed etc.
- **Standby:** The associated UCU10FC/K is operating within its unoccupied parameters. Temperature setpoint, fanspeed etc.
- **Energy Hold Off (EHO):** The associated UCU10FC/K is switched off, so that all enable and demand signals are off. Temperature and digital inputs are monitored in order that the UCU10FC/K can be activated in case of an alarm state.



Error messages

Err1: Communication Error between Base and Terminal. Verify wiring. Make sure data line are not mixed up or interrupted.

Err2: Faulty temperature sensor: The temperature sensor may be damaged or not present.

Err3: General fan coil device error

Operation of the Room Display

Switching ON

The unit is switched on by pressing the POWER button while in EHO mode. It will start up in comfort mode.

Changing between COMFORT and STANDBY

Pressing the POWER button for less than 2 seconds toggles between STANDBY and COMFORT modes.

Switching OFF

Pressing the POWER button for more than 2 seconds, will switch the unit off. OFF and temperature will be displayed in the LCD.

Standard loop display

The large digits indicates the room temperature, the small digits display the set point and the vertical bar on the right side shows the active fan speed.

Changing of setpoints

Press UP/DOWN keys to change temperature setpoint. Changing of setpoints may be disabled and set point ranges can be limited.

Manual override of fan speeds

Manually change fan speeds by pressing the OPTION key for less than 3 seconds. Repeatedly pressing the OPTION key will toggle through these fan speed selections: Fan LOW > Fan MEDIUM > FAN HIGH > FAN ECO. Any other selection than FAN ECO will display the manual override sign.

Specifications

POWER SUPPLY

| | |
|-----------------------|-----------------------|
| Operating voltage | 10...28 V DC |
| Power consumption | Max 50mA |
| Electrical Connection | 4 way screw connector |

TEMPERATURE INPUT

| | |
|----------|--------------------------|
| Type | NTC 10kΩ @ 25°C (77°F) |
| Range | 0...50 °C (32... 122 °F) |
| Accuracy | 0.2 K |

COMMUNICATION

| | |
|--------------------|-------|
| Communication type | RS485 |
|--------------------|-------|

ENVIRONMENT

| | |
|-----------------------|--------------------------------|
| Operation | To IEC 721-3-3 |
| Climatic Conditions | class 3 K5 |
| Temperature | 0...50 °C (32... 122 °F) |
| Humidity | <95 % r.H. non-condensing |
| Transport & Storage | To IEC 721-3-2 and IEC 721-3-1 |
| Climatic Conditions | class 3 K3 and class 1 K3 |
| Temperature | -25...70 °C (-13... 158 °F) |
| Humidity | <95 % r.H. non-condensing |
| Mechanical Conditions | class 2M2 |

STANDARDS

| | |
|---|--|
| conform according to | EMC Standard 89/336/EEC EN 61 000-6-1/ EN 61 000-6-3 EMEI Standard 73/23/EEC |
| Product standards | |
| Automatic electrical controls for household and similar use | EN 60 730 –1 |
| Special requirement on temperature dependent controls | EN 60 730 – 2 – 9 |
| Pollution Class | Normal acc. to EN 60 730 |
| Degree of Protection | IP30 to EN 60 529 |
| Safety Class | III |

GENERAL

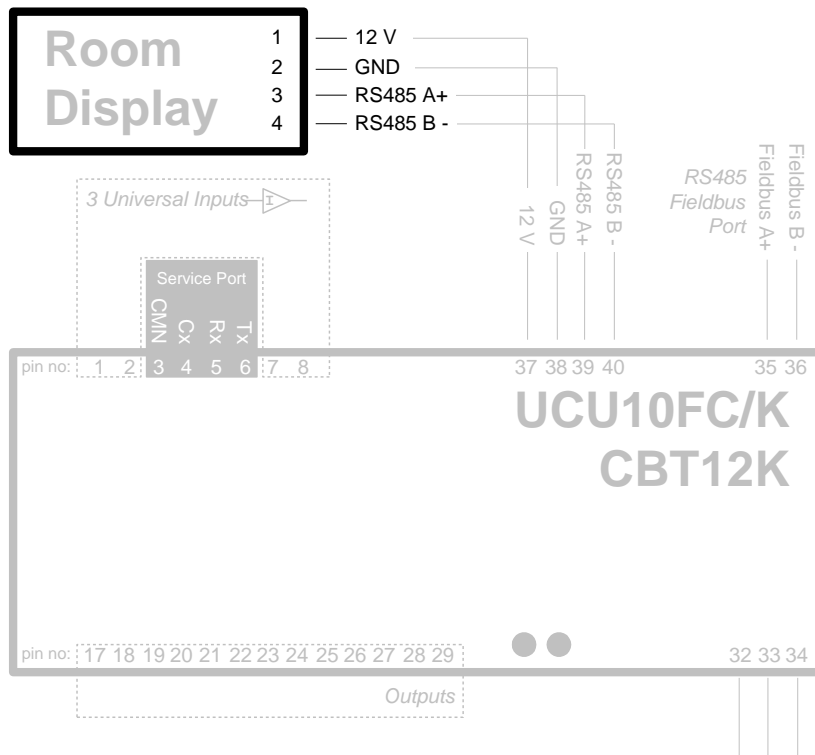
| | |
|----------------------------|--------------------------------------|
| OPA Dimensions (H x W x D) | 88 x 88 x 21 mm (3.5" x 3.5" x 0.8") |
| Housing Material | Fire proof ABS plastic |
| Mounting Plate | Zinc coated steel |
| Standard Colour | White RAL 9003 |
| Weight (including package) | 80 g (2.8 oz) |

Installation

1. Install the mounting plate straight to the wall or the flush mounting box. Make sure that the nipple with the front holding screw is facing to the ground. Make sure the screw heads do not stand out more than 5 mm of the surface of the mounting plate.
2. Plug in the communication cable fitted with a male RJ11 connector to the RJ11 connector located on the backside of the terminal.
3. Slide the two latches located on the top of the front part into the hooks of the mounting plate.
4. Lower the front part until located flat on the wall and the mounting plate is not visible anymore. Make sure the connection cable does not get into the way.
5. Tighten the front holding screw to secure the front part to the mounting plate.

Cabling

Note: the UCU Room Keypad must be used in conjunction with either UCU10FC/K or CBT12K Field Controller



Field Controller Strategy point setup

| Type | Number | Use | Values |
|---------|--------|----------------------|---|
| Analog | 255 | Temperature Setpoint | 15-30 Deg C, 59-86 Deg F |
| Analog | 254 | Upper Setpoint Limit | 15-30 Deg C, 59-86 Deg F |
| Analog | 253 | Lower Setpoint Limit | 15-30 Deg C, 59-86 Deg F |
| Analog | 252 | Fan Speed | 0 = off, 1 = low, 2 = medium, 3 = high |
| Analog | 251 | Room Temperature in | -40.0 – 959.9 Deg C/Deg F |
| Analog | 250 | Control Flags | <i>(See description below)</i> |
| Analog | 249 | Power Mode | 0 = off, 1 = standby, 2 = comfort |
| Analog | 248 | Room Temperature out | -40.0 – 959.9 Deg C/Deg F |
| Digital | 255 | Operational Mode | 0 = heating, 1 = cooling |
| Digital | 254 | Keypad Link Status | 0 = offline, 1 = online |
| Digital | 252 | Manual Fan Control | 0 = automatic, 1 = manual |
| Digital | 251 | Fan Type | 0 = three speed fan, 1 = single speed fan |

Control Flags (analog point 250) : Analog point 250 is used to specify all of the Control Flags. This is set in the Controller and sent from the Controller to the display. A value between 0 and 127 is used to represent the following bit pattern for Flag values:

bit 0 :: Manual fan disable flag : When this flag is set, the keypad will allow the user adjust the setpoint value but not the fan speed. If the user tries to change fan speed when this flag is set, the word “no” is displayed in order to give a feedback (assuming fan display inhibit flag is NOT set).

bit 1 :: Fan display inhibit : When this flag is set and the manual fan disable flag is set, the keypad does not display any fan status information. This allows for operation in VAV type applications where there is no requirement for user fan adjustment or status. If the manual fan disable flag is clear this flag is ignored.

bit 2 :: Power control flag : When this flag is set the user is not allowed to change the current power mode (i.e. comfort, standby, off). This is for out of occupancy lockdown.

bit 3 :: Local echo flag : When this flag is set the keypad will update the local display based on the users input without waiting for the update acknowledge from the UCU. This may improve the apparent user responsiveness of the display but could lead to some glitches if the UCU needs to vet user responses and override them.

bit 4 :: Fahrenheit/Celsius flag : This is set by the UCU and used by the display to decide which temperature units to use.

bit 5 :: Error lockout flag : When this flag is set, all keypad functionality is disabled, and the “Err3” code is displayed to indicate a fancoil error state.

bit 6 :: room temperature override flag : When this flag is set, the keypad will display the temperature value supplied by the Controller instead of the value from the keypad’s internal temperature sensor. This would allow the use of external temperature sensors attached to the Controller or would allow the Controller adjust the temperature from the keypad sensor to compensate for errors