TA692C4-FC

FCU Thermostat

Operating Voltage	$230V_{AC}$
Installation Type	flush-mounting

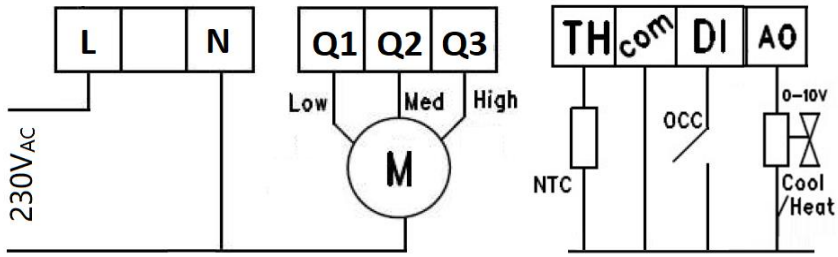
Features

- **4.0**" TFT
- Capacitive touch panel
- Gloss black lens and matte black casings
- Flush-mount installation in an 86x86 British single-gang wall-box
- Two-pipe Fan Coil application
- Input: access key card holder / open closed detection / external temperature sensor
- Outputs: analog type, digital type x3
- Input
  - External temperature sensor
    - [Optional accessory] 3-meter temperature sensor cable
- Outputs x 4
  - Q_1 Q_2 Q_3
    - Standard three-fan-speed control
  - AO
    - Heat / Cool modulating valve control

Technical Specification

Measuring temperature	0 ~ 40°C
Controlling temperature	5 ~ 35°C
Measuring accuracy/resolution	±0.5°C
Relay Contact Voltage at Q1 Q2 Q3	$230V_{AC}$ max 50/60Hz
Relay Contact Current at Q1 Q2 Q3	5(1)A $_{MAX}$
AO contact voltage	0 ~ 10V
Output rating at AO	$10V_{DC}$ 10mA $_{MAX}$
Sensing Element:	103AT
TFT resolution	480 x 480

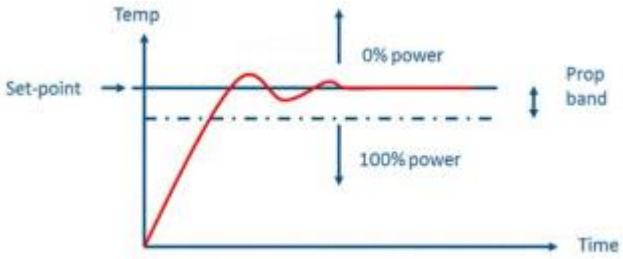
Wiring Diagram



Analog Output and PID

TA692C-FC and TA692C4-FC employ proportional integrative control on both Heat / Cool output. AO voltage level is determined dynamically by pre-determined K Factor, P-band and I-Time and the difference between setpoint and ambient temperature sampled in every 10 seconds.

Diagram below illustrates temperature change in heat mode. When room temperature is significantly lower than set-point temperature, say 10 centigrade lower, AO generates $10V_{DC}$. As the room heats up, current temperature surpasses setpoint, AO generates $0V_{DC}$. Room cools down and drops below setpoint AO outputs 1.5V and the curve bends upward. The process continues until equilibrium is reached.



I-Time

The time period or simple time in PI equation. The shorter the time, the more responsive the change in AO.

K-Factor

The coefficient of I-term in PI control. The smaller the number, the faster the response.

User Interface

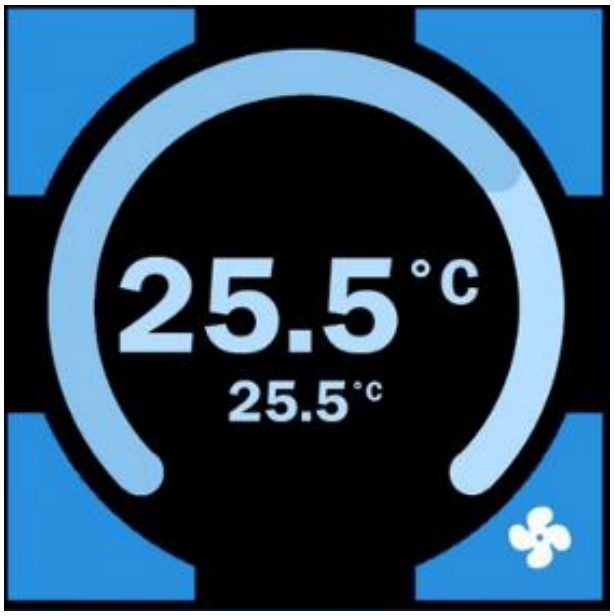
Initialization and startup screen

Upon power-up, screen glows, f/w version and/or date code appears for a predetermined number of seconds.

Parameters are loaded from internal memory.

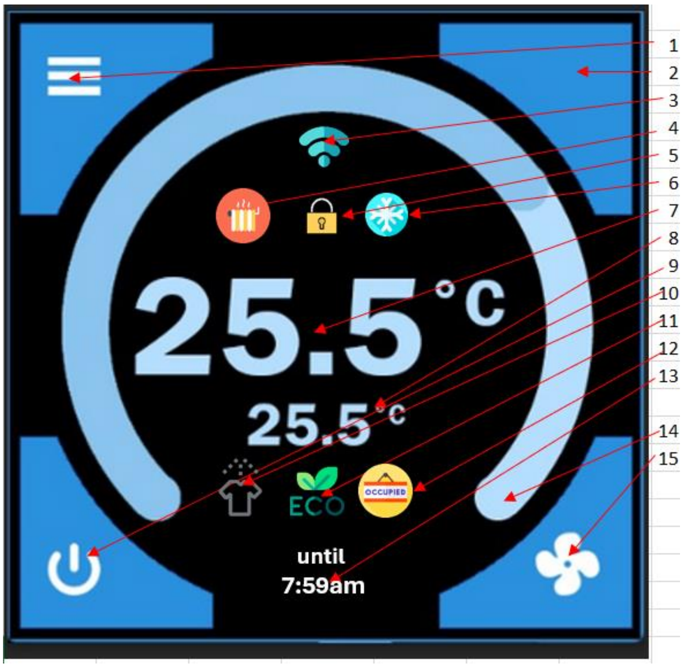
When loading is completed, screen switches to front page i.e. idle screen

Idle Screen



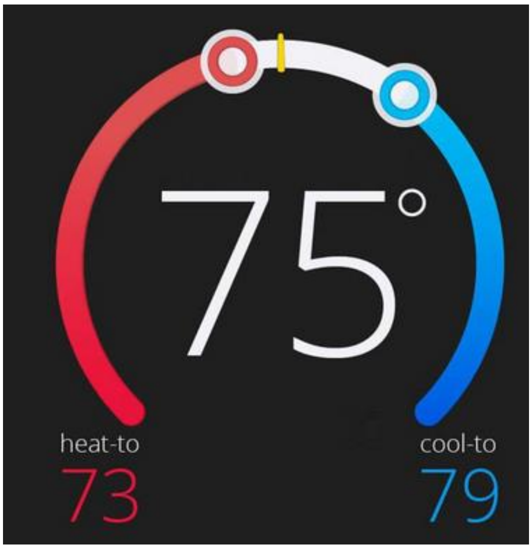
"Off" Screen

Alert, warning, action, etc.



1	blank when idle	▶	Menu Icon	▶	access Menu									
2	blank when idle	▶	Current mode icon (fire / snow)	▶	Heat. Brown theme	▶	Cool. Blu	▶	Auto	▶	Heat	▶	Heat	
3	blinks when connection is lost	▶	access Wi-Fi pairing menu											
4	AUX	▶	de-activate	To manually activate, go to Menu										
5	screen lock	once activated must be de-activated on App												
6	defrost	▶	de-activate	To manually activate, go to Menu										
7	ambient real-time	▶	relative humditiy	▶	room temperature									
8	setpoint	▶	Setpoint fine adjustment page											
9	blank when idle	▶	Off all outputs	▶	On all outputs									
10	de-humidifer	▶	de-activate	To manually activate, go to Menu										
11	ECO	▶	de-activate	To manually activate, go to Menu										
12	OCC	▶	de-activate	To manually activate, go to Menu. Automatically activated by either digital input or remote occupancy sensor.										
13	Next programmed schedule	▶	manually set time	▶	confirm									
14	slide	temperature setpoint slide												
15	Fan	▶	Fan Low	▶	Fan Med	▶	Fan High	▶	Fan Auto	▶	Fan Off			

Dual-setpoint Screen valid for Auto mode only



Screen Saver #1

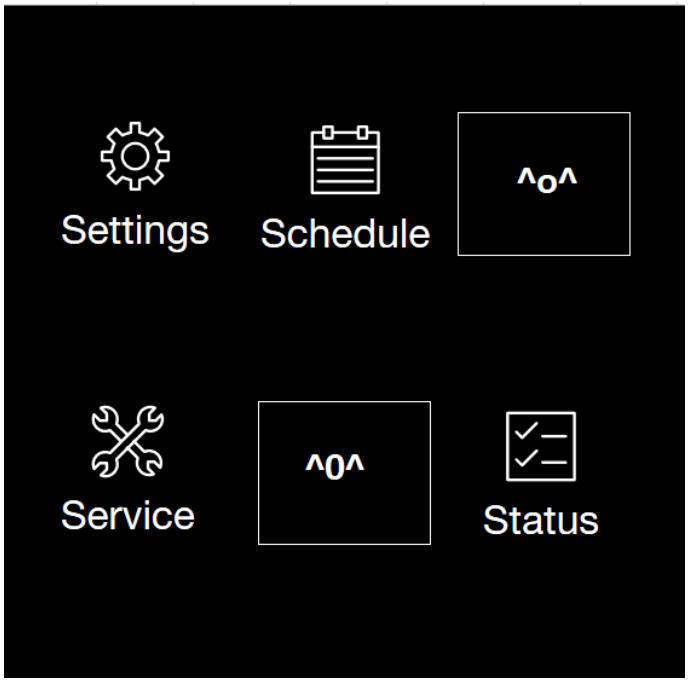
Displays relative humidity reading and temperature alternately every 10 seconds.

Next program start time and setpoint appear below.

Screen Saver #2

loops a 30-sec animation

Internal Parameter Menu



Menu		Level 1		Level 2		Level 3
Settings	▶	Screesaver	▶	Option 2 / 1 / 0	▶	Confirm changes
		Temp display unit	▶	12 / 24	▶	Confirm changes
		Time display unit	▶	C / F	▶	Confirm changes
		Span	▶	1°C ~ 5°C		
		Calibration	▶	-5°C ~ +5°C		
Schedule	▶	schedule setting page	▶	Sleep	▶	Confirm changes
		(see Schedule tab)		Home	▶	Confirm changes
				Away	▶	Confirm changes
Measurement	▶	Relative Humidity				
		External temperature sensor				
Status	▶	Read only:				
		F/W datcode				
		H/W datecode				
		Job number				
Reset	▶	Reset Wi-Fi parameters	▶	confirm		
				return		
		Reset control parameters	▶	confirm		
				return		
Service	▶	??				

Wi-Fi pairing Page

Product Appearance

Dimensions / Outline

Protruding part – 86.0mm(W) x 86.0mm(H) x 16.5mm(D)

Inside wall-box – 64.0mm(W) x 66.5mm(H) x 26.6mm(D)