

## FREOCOM FCAx3™

ADVANCED TEMPERATURE CONTROLLER  
WITH ENERGY SAVING AND CONNECTIVITY

### Description

The FCAx3 ensures accurate temperature control for your cooler/fridge/freezer with advanced energy saving features and connection to BLE (Bluetooth Low Energy).

The FCAx3 also connects to a variety of temperature displays with a range of sizes and a variety of colours.

The FCAx3 is panel mounted and provides an easy drop-in replacement to mechanical thermostats.

The FCAx3 allows the control of three separate outputs (Compressor, Aux1 and Aux2). It has three sensor inputs that can be used for temperature and door sensing. A connection port is provided for programming, display or connectivity interface.

Moreover, the FCAx3 protects equipment against high and low voltages and is fully encapsulated to be resistant to environmental factors.

All the above make the FCAx3 a total solution for tomorrow's refrigeration equipment.



### Features

- Advanced EMD (Energy Management Device) features including energy saving
- Highly accurate temperature measurement and control – not affected by barometric pressure
- Controls compressor, lights, fans and defrost heater
- Direct retrofit for electro-mechanical thermostats
- Three external inputs for; temperature probes, door switch, pressure sensor and other inputs
- Connects to a digital display and Bluetooth device
- Bluetooth allows asset identification, telemetry data to be viewed and uploaded and customer engagement
- User-adjustable temperature dial. Range fully customisable by the user
- Time and/or temperature controlled defrost with advanced features
- Switching at zero voltage crossing for long relay life
- Wide operating voltage (75 Vac to 300 Vac) for universal stocking and can permanently withstand up to 450 VAC
- Encapsulated to give water splash resistance for harsh applications
- 3 LEDs for status indication
- Fully Programmable via PC software or SPP programmer device for in the field upgrades
- Intelligent time delay (TimeSave™)
- Complete voltage protection (high, low, Spike or surge protection)

### Features

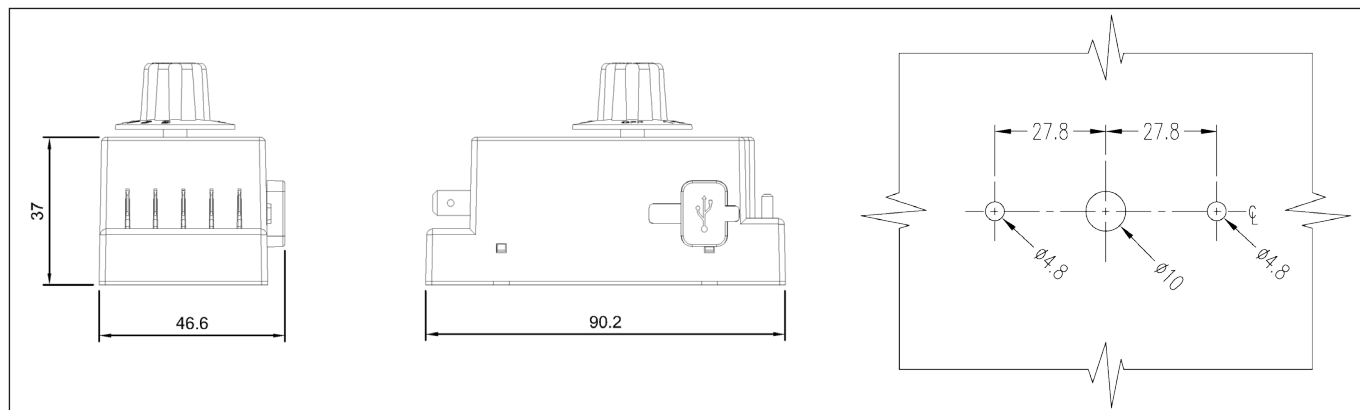


## Technical Specification

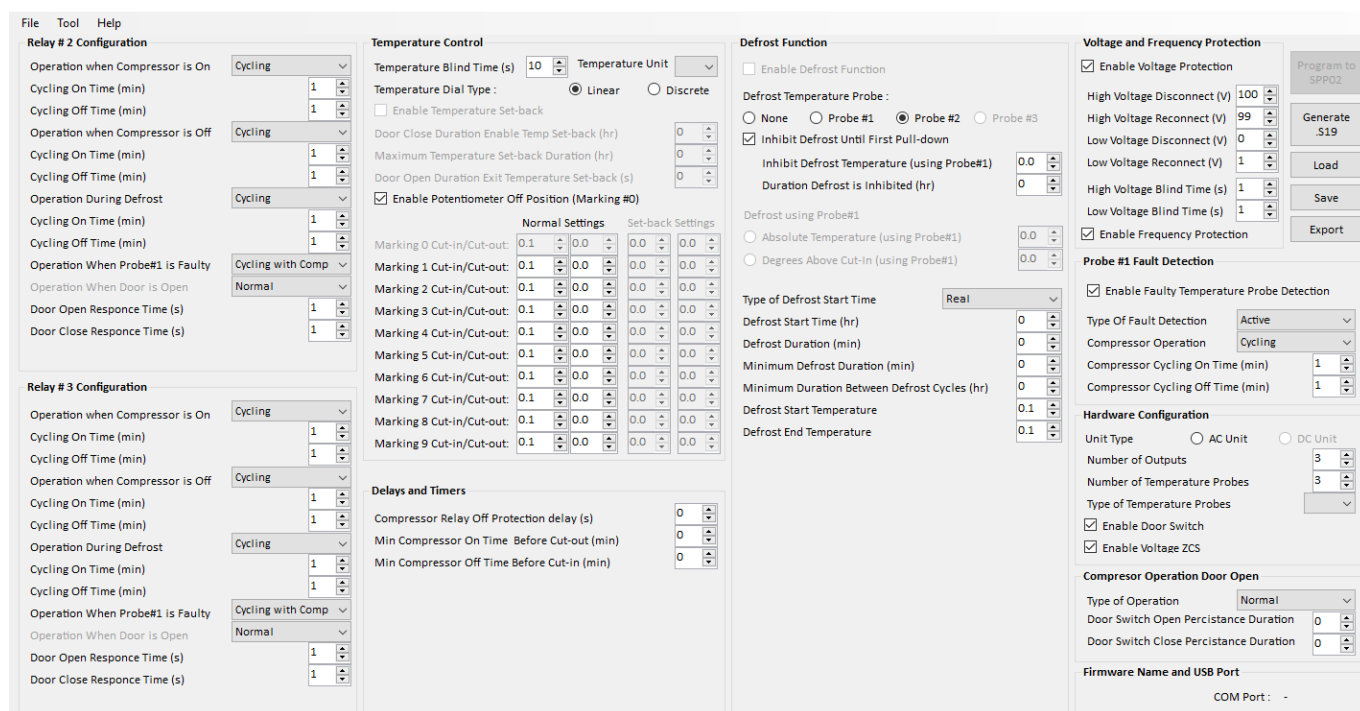
Temperature Control Method *	Air or evaporator		
Defrost Control *	Manual, Timed or Active		
Timed Defrost*	Real Time - Period between defrost cycles, Accumulated Time - Accumulated time of compressor ON, Continuous Time - Period of continuous compressor ON		
Duration Between Defrost*	0 - 255 Hours		
Defrost Duration*	0 - 255 Minutes		
Active Defrost			
Defrost Start Temperature*	-40°C to +40°C		
Defrost End Temperature*	-40°C to +40°C		
Energy Saving *	Temperature set-back and fan cycling		
Door Switch	Via third probe input		
Temperature Control Range	-40°C to +40°C (-40°F to +104°F) ADC -40 to -30°C : +/- 0.2°C      -30 to 30°C : +/- 0.1°C      30 to 40°C : +/- 0.2°C		
Temperature Probe Type	100 k $\Omega$ NTC ( $\beta_{25/85}$ : 4060 k)		
Temperature Probe Length	Variety of lengths available		
Intelligent Time Delay *	10 sec to 10 min - maximise compressor availability		
Output Control *	Compressor, Lights, Evaporator Fan & Defrost Heater (Max 3 Outputs depending on model)		
Temperature Blind Time *	1 to 255 sec		
Number of Relays	FCA13 16 A	FCA23 16A + 5 A	FCA33 16A + 2 x 5 A
Compressor Relay	<b>UL 873</b> 250 VAC 10FLA 60LRA 100,000 cycles 120 VAC 16FLA 96LRA 100,000 cycles		<b>IEC 60730</b> 16 (16) A
Aux 1 Relay	250 VAC 1.5FLA 9LRA 30,000 cycles		6 (3) A
Aux 2 Relay	250 VAC 5A General 50,000 cycles		6 (3) A
Indication	3 off LEDs (Red, Yellow, Green)		
Control knob	0-9 with off position		
Operating Voltage	75 to 300 V		
Voltage Protection	High Voltage and Low Voltage Disconnect		
Working Frequency	Auto-sense 50/60 Hz		
Continuous Withstand Voltage	Up to 450 V		
Immediate Disconnect Voltage *	75 / 150 V		
Low Voltage Blind Time *	0 - 255 sec		
High Voltage Blind Time *	0 - 255 sec		
Surge Protection	6.5 kA, <10 ns, 160 J		
Control	Microcontroller with 10-bit ADC resolution for Temperature sensing and control		
Programming Connector	Micro USB-B for Programming, Digital Display (FDM3) and BLE Communications		
Input Connector	3 pairs of 0.11" (2.80 mm) Fast-On for Temperature Sensors and Door Switch		
Power / Output Connectors	5 x 0.25" (6.35 mm) Fast-On		
Environmental	Internal Electronics: IP65		
Certifications	IEC - EN 60730, UL - UL 873, CSA - C22.2 No.24-93, Hazloc approved		
Mounting	2 x M4 x 12 self-tapping pozidriv screws (supplied with controller)		
Unit Dimensions (L x W x H)	90.3 x 45.6 x 55.6 mm (with Dial)		
Unit Weight	Approx. 135 g		
Carton Quantity	100 Pcs		
Carton Dimension (L x W x H)	507 x 304 x 277 mm		
Carton Gross Weight	Approx. 14 Kg		
Cartons Per Pallet	21 (2100 units per pallet)		
Pallet Dimensions	1200x 1020 x 990 mm		
Pallet Gross Weight	Approx. 300 Kg		

\* All the above operational parameters are configurable based on the customer's requirements

## Mechanical Drawing



## Parameter Configuration Software

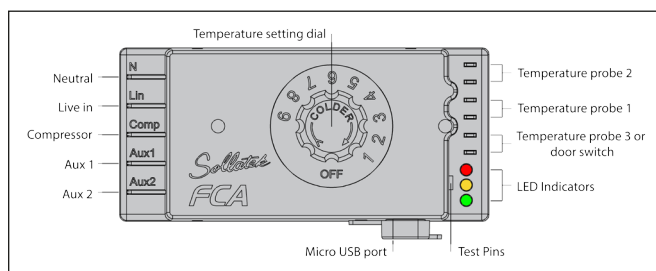


## Parameter Configuration

The FCAx3 parameters can be configured by three methods:



## FCAx3 Overview



Stock No	Description
92373100	FCA13 16A 110/220V 3xInputs
92373200	FCA23 16A + 5A 110/220V 3xInputs
92373300	FCA33 16A + 2x5A 110/220V 3xInputs

# ACCESSORIES



## TEMPERATURE PROBES

NTC temperature sensors that can measure evaporator temperature, return air temperature, ambient temperature, etc.

- Sensitive thermistor element for accurate measurement
- Robust, double insulated construction
- Different lengths and diameters available

Stock No	Description
9T25005B	100KΩ Temperature Probe, 5mm Ø, 0.5m length, Black
9T26010B	100KΩ Temperature Probe, 6mm Ø, 1.0m length, Black
9T26015B	100KΩ Temperature Probe, 6mm Ø, 1.5m length, Black
9T26015W	100KΩ Temperature Probe, 6mm Ø, 1.5m length White
9T26030B	100KΩ Temperature Probe, 6mm Ø, 3.0m length Black
9T25035B	100KΩ Temperature Probe, 5mm Ø, 3.5m length Black

## FDM3

LED display for all coolers and fridges/ freezers

- The FDM3 is a plug-in display unit that connects to Sollatek FCA temperature Controller
- The temperature display features 3 x 7 segment digits that are 14.2mm high
- Nine annunciators indicating run mode and displayed temperature unit
- The FDM3x has saved settings that can be adjusted through 4x touch switches located on the front of the unit

Stock No	Description
92393B00	FDM3B 14MM Blue 3 digit display
92393G00	FDM3G 14MM Green 3 digit display
92393R00	FDM3R 14MM Red 3 digit display
8M293464	Cable u-USB 0.4m D3534.02



## GBR4

Bluetooth connectivity device for Sollatek temperature controller

- Bluetooth Low Energy (BLE)
- Transmits Eddystone and iBeacon signals to allow nearby customer engagement
- Collects and stores data received from the Sollatek temperature controller/EMD and transmits to the mobile phone app
- Contactless Asset Identification through Proximity
- Optional battery to enable data sync with no power. Battery lifetime of 5-7 years (GBR-B version)
- Easily retrofitted to Sollatek FCAx3 via a connecting cable

Stock No	Description
9530BR40	GBR4 Remote BLE Module - Micro USB
9530BR4B	GBR4-B Remote BLE Module - Micro USB + Battery
8M293464	Cable u-USB 0.4m D3534.02



For more information on the Sollatek product range visit [www.sollatek.com](http://www.sollatek.com)

**Sollatek™**  
Intelligent Controls