FREOCOM FCRx2

ELECTRONIC TEMPERATURE CONTROLLER WITH DEFROST, VOLTAGE PROTECTION AND EXTERNAL BLUETOOTH CONNECTIVITY

DESCRIPTION

The FCRx2 (FCR) is an electronic temperature controller that provides accurate temperature control and advanced defrost function for all commercial fridges, coolers, and freezers as well as the ability for remote monitoring when connected to the Sollatek Bluetooth module (GBR).

The FCR provides precise cooler operations with control of up to 3 outputs (depending on the model) and 2 input sensors of temperature and/or door sensors as well as over 100 configurable parameters. The FCR is HC compatible with Hydro-Carbon rated relays.

The FCR is small and compact for panel mounting and provides an easy drop-in replacement to mechanical thermostats. The temperature control dial allows easy infield adjustment to ensure the ideal product temperature for enhanced product quality.

The FCR offers full protection and longevity to the full system with built-in voltage protection and zero voltage crossing relays. When connected to the GBR, the FCR provides added convenience and flexibility with live and historical status and events as well as parameter reading on the Sollatek Smart device App.

FEATURES

- Highly accurate temperature measurement and control – not affected by barometric pressure
- Direct retrofit for electro-mechanical thermostats
- Time and/or temperature controlled defrost with advanced features
- Controls up to 3 outputs including compressor, fans, lights and heater
- Two external inputs for temperature probes and/or door switch
- Switching at zero voltage crossing for long relay life
- Complete voltage protection (high/low, Spike/surge protection)
- Intelligent time delays for compressor off periods including brownouts
- TIMESAVE™ Function - voltage sensing period before reconnecting supply after a bad voltage disconnection
- User-adjustable temperature dial. Range fully customisable
- Connects to a digital display
- LED for status indication
- Programmable via SPP02 programmer device for factory and in the field upgrades
- Hydrocarbon refrigerants compatible
- Encapsulated for maximum environmental protection
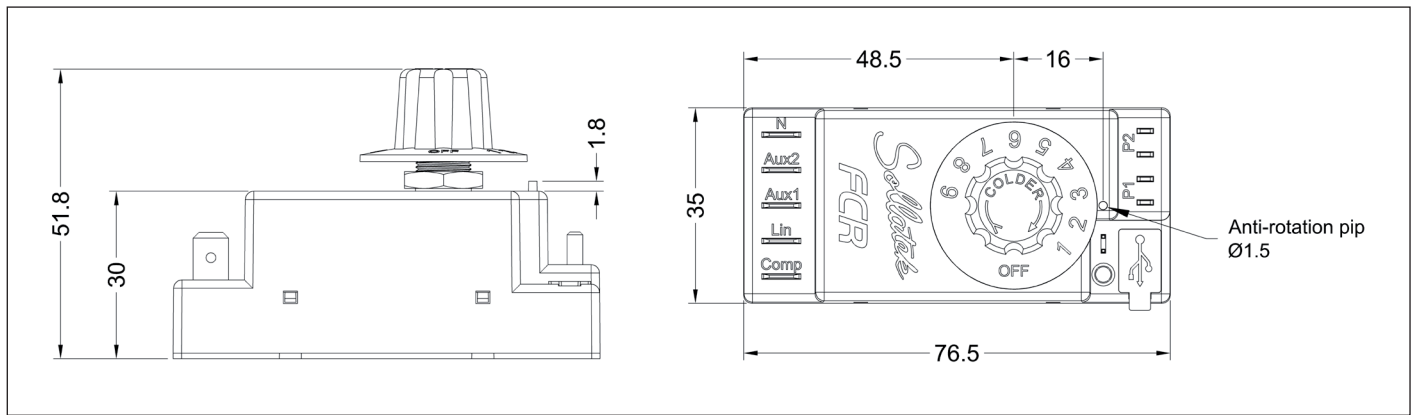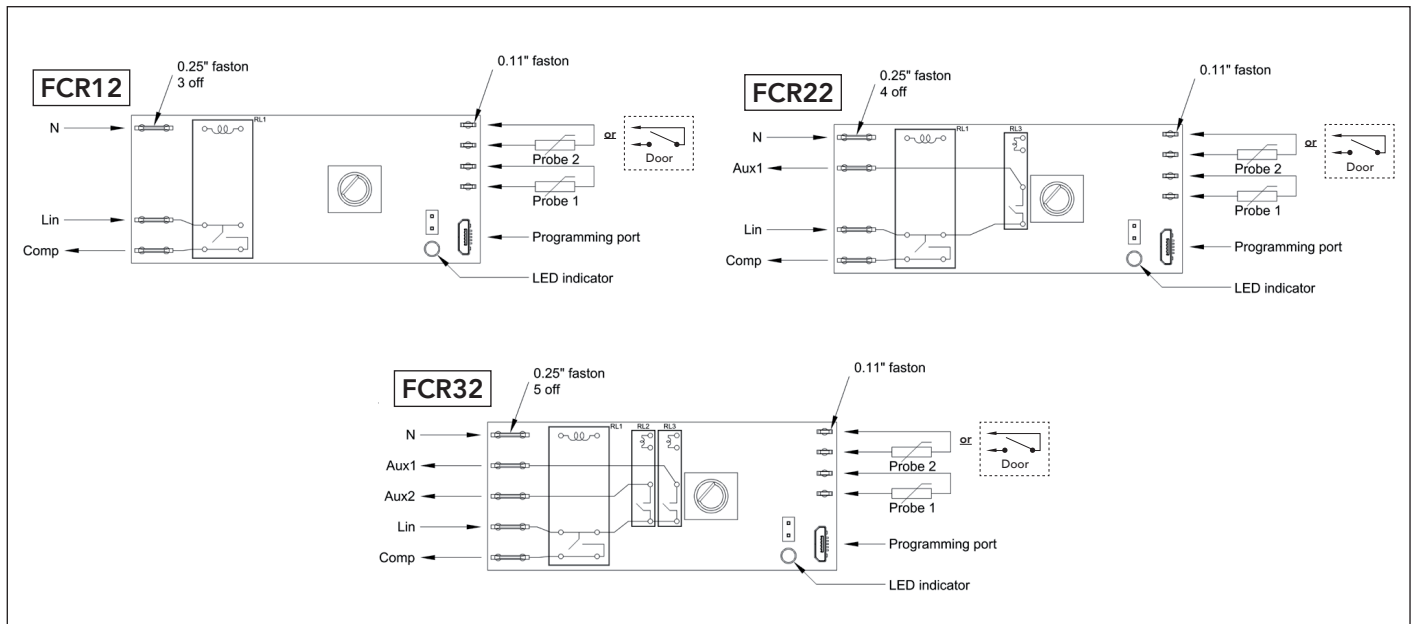- Optional plug-in Bluetooth module (GBR)

FEATURES

OPTIONS

REFRIGERATION CONTROL			
Temperature Control Method	Air or Evaporator		
Temperature Control Range	-40 to +70°C (-40 to +158°F)		
Temperature Time Delay	1 to 125 s		
Defrost Control	Timed or Active		
Advanced Defrost Mode	Pre and Post Defrost, Emergency Defrost		
Energy Saving	Fan Cycling		
Input Type	Temperature Sensor & Door Switch		
Temperature Probe Type	100 KΩ NTC ($\beta_{25/50}$: 3990 k)		
Output Control	Compressor, Lights, Evaporator Fan, Reverse Fan or Heater		
Model Variants	FCR12 Compressor Only	FCR22 Compressor & Aux 1	FCR32 Compressor, Aux 1 & Aux 2
Compressor Relay	16 A 250 V		
Aux 1 Relay (Relay #2)	5 A, 250 V		
Aux 2 Relay (Relay #3)	5 A, 250 V		
Maximum Total Current Rating	16 A	18 A	18 A
Intelligent Time Delay	0 to 600 s		
Refrigerant Compatibility	CO_2 & Hydrocarbon		
Temperature Control Dial	OFF, 1 to 9		
LEDs	1 x Controller Status/mode		
POWER & VOLTAGE PROTECTION			
Nominal Voltage	115 V or 230 V		
Operating Voltage Range	75 to 150 V or 150 to 300 V		
Rated Impulse Voltage	2.5 kV		
Working Frequency	Auto-sense 50/60 Hz		
Type of Protection	High / Low, Spike / Surge & Frequency		
High / Low Voltage Blind Time	0 to 25 s		
Surge Protection	6.5 kA, <10 ns, 160 J		
Over Voltage Category	Category II		
CONNECTOR / INTERFACE			
Input Connector	2 pairs of 0.11" (2.80 mm) Faston Tabs		
Output Connector	Up to 5x 0.25" (6.35 mm) Faston Tabs (depending on model)		
Data / Programming	Micro USB-B for Programming/External Device		
ENVIRONMENTAL			
IP Rating	Electronics: IP65 (PCB encapsulated)		
Operating Temperature	-20°C to +50°C (-4°F to +122°F)		
Operating Humidity	<95% RH non-condensing		
Shipping/Storage Temperature	-10 to +60°C (14 to +40°F)		
CERTIFICATION / STANDARDS			
Product Certification	CE, IEC60730-1, IEC60730-2-9, EN60079-15		
Flammability	UL94 V-0 @ 0.8 mm, GWFI: 960°C, GWIT: 850°C		
Pollution Degree	2		
MECHANICAL			
Mounting	M10 Nut (supplied with the controller)		
Unit Dimensions	76.5 x 35.0 x 51.8 mm		
Unit Weight	Approx. 90 g		
PACKING			
Carton Quantity	180 units		
Carton Dimensions (L x W x H)	510 x 310 x 280 mm		
Carton Gross Weight	Approx. 20 kg		

	Air Freight	Sea Freight
Cartons per Pallet	21 (3780 units per pallet)	42 (7560 units per pallet)
Pallet Dimensions (L x W x H)	1200 x 1020 x 990 mm	1200 x 1020 x 1980 mm
Pallet Gross Weight	Approx. 438 kg	Approx. 876 kg

DIMENSIONAL DRAWING

Anti-rotation pip
Ø1.5

CONNECTIONS

FCR12
- 0.25" faston 3 off
- 0.11" faston
- N
- Lin
- Comp
- Probe 2
- Probe 1
- or Door
- Programming port
- LED indicator

FCR22
- 0.25" faston 4 off
- 0.11" faston
- N
- Aux1
- Lin
- Comp
- Probe 2
- Probe 1
- or Door
- Programming port
- LED indicator

FCR32
- 0.25" faston 5 off
- 0.11" faston
- N
- Aux1
- Aux2
- Lin
- Comp
- Probe 2
- Probe 1
- or Door
- Programming port
- LED indicator

PRODUCT CODE	DESCRIPTION
92330121	FreoCom FCR12 115V 1xO/P 2xI/P
92330122	FreoCom FCR12 230V 1xO/P 2xI/P
92330221	FreoCom FCR22 115V 2xO/P 2xI/P
92330222	FreoCom FCR22 230V 2xO/P 2xI/P
92330321	FreoCom FCR32 115V 3xO/P 2xI/P
92330322	FreoCom FCR32 230V 3xO/P 2xI/P