



SOLLATEK DATA SHEET NO:

10910539

FREOTEC FDEx2

 ALL ENCOMPASSING TEMPERATURE CONTROLLER WITH
 BUILT-IN CONNECTIVITY AND TRACKING


Description

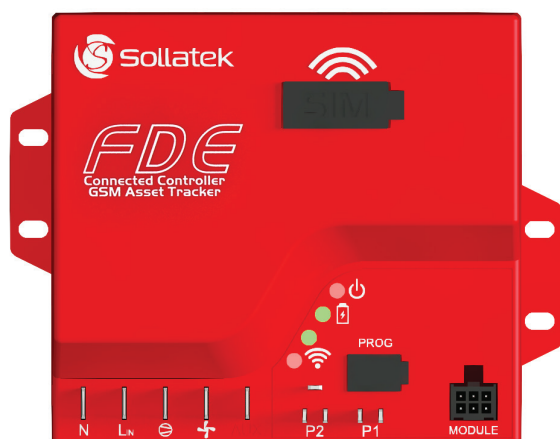
The FDEx2 provides accurate temperature control with advanced defrost and energy saving abilities as well as the ability to monitor cooler sales and performance data on the online portal without the need for a member of staff to visit the cooler.

The FDEx2 controls up to 3 outputs (depending on model) including compressor, fans and lights (optional 10 A relay if defrost heater is required) with two sensor inputs for temperature probe and or door switch. The FDEx2 is HC compatible with Hydro-Carbon rated relays.

The FDEx2 provides remote monitoring and configuration of parameters, status and alarms via a connected display, technical smart device app and online portal.

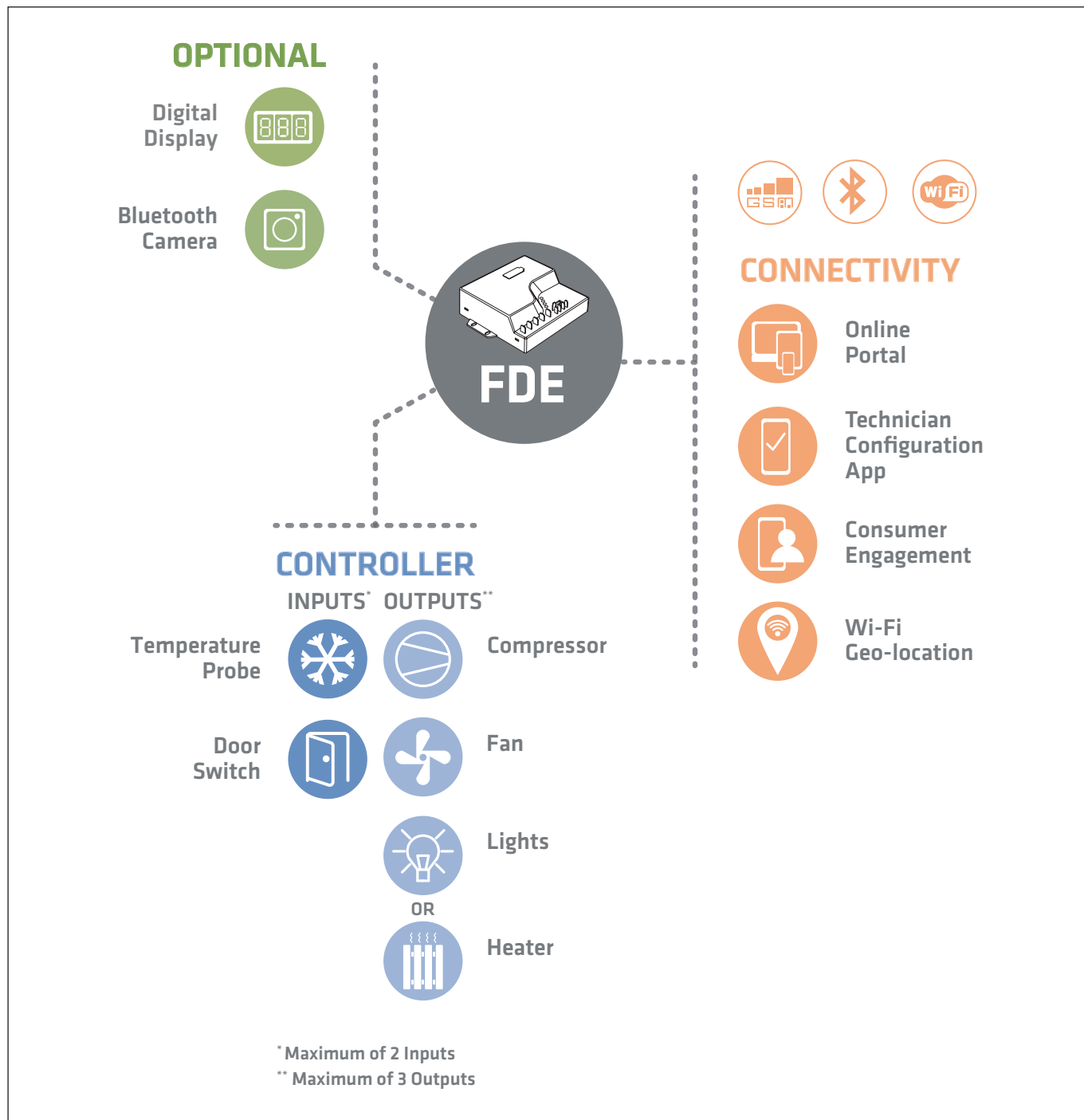
Via the online portal, cooler data is turned into sales and performance data allowing you to monitor and forecast sales as well as better planned maintenance to reduce downtime. Also keep track of the cooler location and any movement, in the event of a theft or unauthorised movement, remotely disable the controller functionality until the cooler has been recovered.

The FDEx2 is fully encompassing, including the GSM antenna allowing simple and discrete mounting anywhere in the cooler.



Feature

- Electronic temperature controller for coolers, fridges and freezers with energy saving
- Time and/or temperature controlled defrost with advanced features
- Controls up to 3 outputs including compressor, fans and lights (option for defrost heater if required)
- Two external inputs for temperature probes and door switch
- GSM (2G/3G) or LPWA (LTE-M and NB-IoT) options for secure data transmission to the online portal
- Internal cellular antenna
- Bluetooth (BLE) for remote monitoring and configuration of status and parameters via the Sollatek smart device app
- Connects to BLE camera for stock and purity monitoring
- Proximity marketing through iBeacon and Eddystone beacons
- Wi-Fi geo-location
- Connects to external display for live status and temperature as well as parameter configuration
- Rechargeable battery for asset location transmission when mains power is OFF
- 4 months battery autonomy depending on set transmission interval
- Transmission interval customisable to match your requirement.
- On-board accelerometer for movement detection
- Embedded flash memory for data/image storing between transmissions
- Switching at zero voltage crossing for long relay life
- Wide operating voltage (85 to 265 VAC)
- 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
- 4 LEDs for status indication
- Programmable via SPP02 programmer device for factory and in the field upgrades
- Hydrocarbon refrigerants compatible
- Encapsulated for maximum environmental protection



Display Compatibility

The FDEx2 can be connected to any Sollatek display from the FDM range:

FDM3



(H) 14 mm

FDM4



(H) 30 mm

FDM5



(H) 50 mm

*All displays available in 5 colours: red, blue, green, yellow & white

Technical Specification

Refrigeration Control Specification

Temperature Control Method		Air or Evaporator	
Temperature Control Range		-40°C to +70°C (-40°F to +158°F)	
Temperature Time Delay		1 - 255 s	
Defrost Control		Timed or Active	
Advanced Defrost Mode		Emergency Defrost	
Energy Saving		Temperature Set-back, Fan Cycling, Lights OFF	
Input Type		Temperature sensor & Door Switch	
Temperature Probe Type		100 KΩ NTC (β _{25/85} : 4060 k)	
Output Control		Compressor, Lights, Evaporator Fan, Reverse Fan or Heater (if fitted with 10 A relay)	
Number of Relay	FDE12 16 A	FDE22 16 A + 5 A	FDE32 16 A + 2 x 5 A (Option: 16 A + 5 A +10 A)
Compressor Relay	16 A, 250 V		
Relay #2	Fan: 5 A, 250 V		
Relay #3	Light: 5 A, 250 V Heater: 10 A, 250 V		
Intelligent Time Delay	0 - 600 s		
Refrigerant Compatibility	CO2 & Hydrocarbon		
Power & Voltage Protection			
Nominal Voltage	115 V / 230 V		
Operating Voltage Range	85 / 265 V		
Withstand Voltage	Up to 450 V		
Working Frequency	Auto-sense 45 - 60 Hz		
Type of Protection	High / Low, Spike / Surge & , Frequency		
High / Low Voltage Blind Time	0 - 255 s		
Surge Protection	6.5 kA, <10 ns, 160 J		
Over Voltage Category	Category II		
Cellular Connectivity			
Target Region	Global		
Antenna	Internal		
Type	2G	LTE	
Category	EDGE, GSM, GPRS	Cat-M1, Cat-NB1	
Frequency Band	850 / 900 / 1800 / 1900	B1, B2, B3, B4, B5, B8, B12,B13, B18, B19, B20, B25, B28, B39	
Bluetooth Connectivity			
Type/version	BLE 4.1		
RF Power Output	-20 dBm to +4 dBm		
Frequency	2.4 GHz ISM		
Connectivity	Eddystone, iBeacon & connection to the Sollatek Smart Device Application		
Bluetooth Standard	IEEE 802.15.1		
Wi-Fi Geo-location			
Frequency Range	2.4 GHz		
Protocol	802.11 b/g/n		
Accelerometer			
Measurement Direction	3-axis		
Measurement Scale	High sensitivity ±2g		
Battery			
Battery Type	Rechargeable Lithium Polymer		
Nominal Voltage	3.7 V		
Capacity	700 mAh		
Typical Run Time	Approx. 4 months (dependant on set transmission frequency)		
Memory			
Size	32 Mb for data/image storing between transmission		
User Interface			
LEDs	1 x Controller Status ; 1 x Battery Status ; 2 x GSM status		
Display (Optional)	Connects to the FDM Display Range		

Connector / Interface

Input Connector	1 pair of 0.11" (2.80 mm) Faston Tabs, 1 triple 0.11" (2.80 mm) Faston Tabs
Output Connector	Up to 5 x 0.25" (6.35 mm) Faston Tabs (depending on model)
External Device Connector	6-way (3x2) Female Connector Block
Data / Programming	Micro USB-B for Programming
Sim Card	Push-Push Micro SIM holder

Environmental

IP Rating	Electronics: IP65
Operating Temperature	-20°C to +60°C (-4°F to +140°F)
Operating Humidity	<90% RH non-condensing

Certification / Standards

Product Certification	CE, IEC60730-1, IEC60730-2-9, EN60079-15
Flammability	UL94 V-0 @ 1.5 mm, GWFI: 960 °C, GWIT: 850 °C
EMC	Per EN 301 489-1, EN 301 489-7, EN 301 489-17
Pollution Degree	2

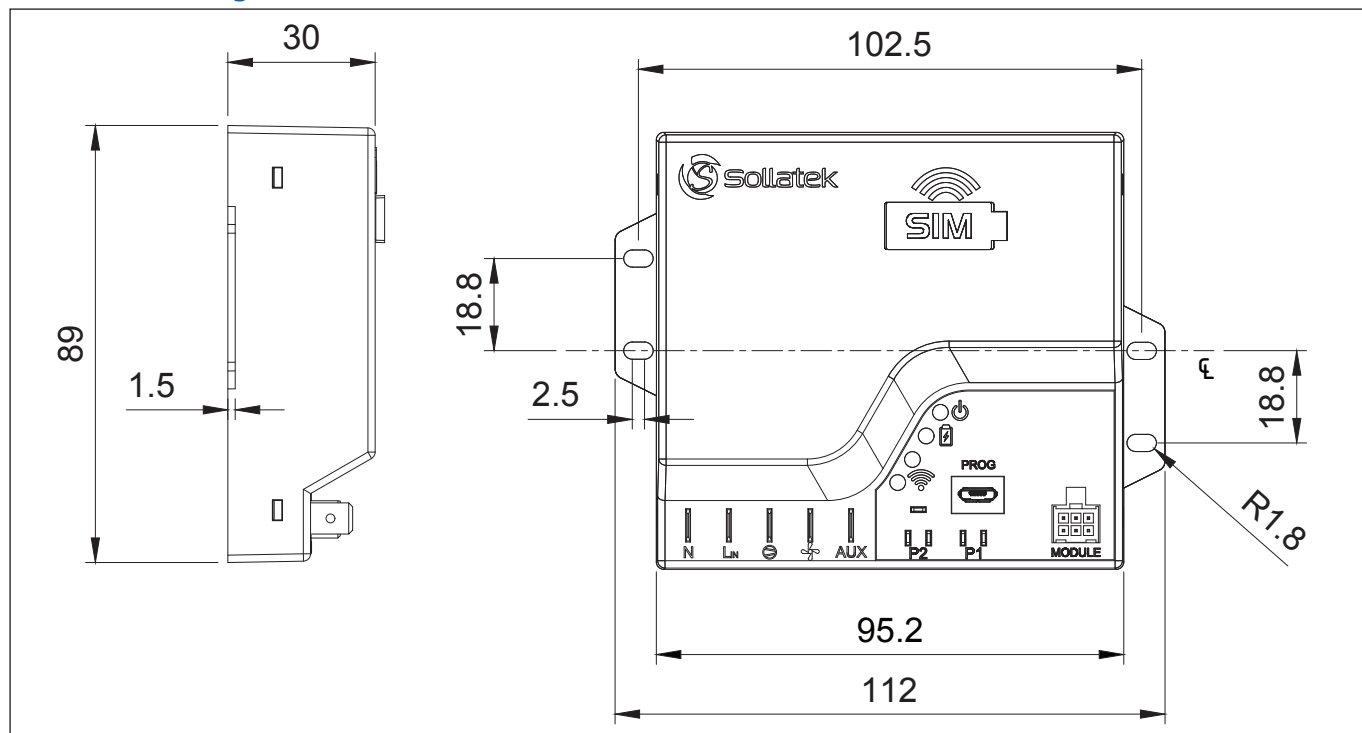
Mechanical

Mounting	4 x M4 self-tapping pozidriv screws
Unit Dimensions	112.0 x 89.0 x 31.9 mm
Unit weight	Approx. 210 g

Packing

Carton Quantity	100 units	
Carton Dimensions (L x W x H)	510 x 560 x 250 mm	
Carton Gross Weight	Approx. 23.0 kg	
Cartons per Pallet	Air Freight 12 (1200 units per pallet)	Sea Freight 24 (2400 units per pallet)
Pallet Dimensions (L x W x H)	1200 x 1000 x 900 mm	1200 x 1000 x 1800 mm
Pallet Gross Weight	Approx. 290kg	Approx. 580 kg

Dimensional Drawing



Product Code	Description
92351225	FDE12-2BBW 1xOP 2G+BLE+Batt+WiFi 115V
92351220	FDE12-2BBW 1xOP 2G+BLE+Batt+WiFi 230V
92352225	FDE22-2BBW 2xOP 2G+BLE+Batt+WiFi 115V
92352220	FDE22-2BBW 2xOP 2G+BLE+Batt+WiFi 230V
92353225	FDE32-2BBW 3xOP 2G+BLE+Batt+WiFi 115V
92353220	FDE32-2BBW 3xOP 2G+BLE+Batt+WiFi 230V

For more information on the Sollatek product range visit www.sollatek.com



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MBA

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