



# FRC100 Deluxe reversing fan controller

*Smart reversing fan controller with fault detection*



*Temperature adjustment shown without protective cover.*

**The FRC100 is an affordable, auto-reversing fan controller with soft-start, selectable temperature threshold, fault monitoring, and auxilliary alarm output.**

## OPERATION

Controller monitors temperature sender and controls fan to maintain field-selectable oil temperature.

Fan controller ramps fan on momentarily in reverse to clear debris from cooler. Fan is then allowed to spin down, and ramped back on in forward direction.

Active fault detection monitors temperature sender and fan current. Led blinks fault codes for troubleshooting:

- Solid Normal Operation
- 1 blink (\* \*) Fan open / No load
- 2 blink (\*\* \*\*) Fan shorted / Over current
- 3 blink (\*\*\*) Temp sensor open
- 4 blink (\*\*\*\*) Over temp alarm, above 185degF

Alarm output is energized in fault condition. (0.5-amp max.)

Output is operated continuously at 100% in temp sensor open condition. (broken temperature sensor wire)

If multiple faults are detected, fault codes are flashed sequentially.

Ground TS+ and MODE input to manually run fan at 100%.

## ORDERING INFORMATION

PART #	DESCRIPTION
<b>FRC100</b>	Deluxe Fan Reversing Controller with temperature sender included
<b>TS10</b>	Temperature sender probe only
<b>FCB</b>	Fan Controller mounting bracket only

## FEATURES

### Easy Installation

No setup or configuration required. Ideal for retrofit. Terminal blocks provided for easy wiring. Optional mounting bracket available.

### Proportional soft-start

Slowly ramps up fan speed to reduce mechanical shock and increase motor life. Safety is improved by slowly starting fan.

### Solid State

High current, reliable solid-state output can drive up to 25-amp fan loads directly. No relays to fail.

### Auto Reversing

Automatically reverses fan direction to clear debris from cooler, improving efficiency.

### Override/Thermostat Mode

Mode input allows fan to be energized remotely by a switch, thermostat, or other controller.

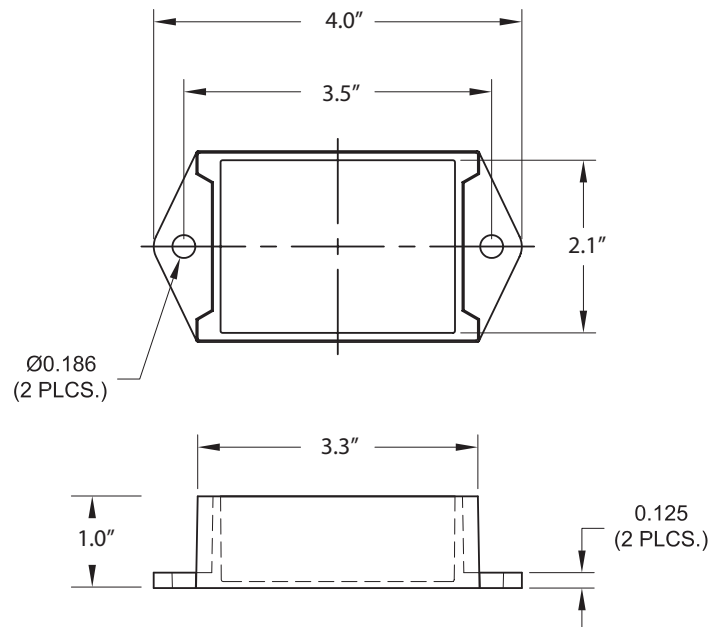
### Fault Detection

Automatically detects fan and temperature sender failure. LED blinks fault codes for easy troubleshooting.

### Alarm Output

Alarm output energized on fault detection or over-temperature condition. Automatically shut down equipment or activate light or siren.

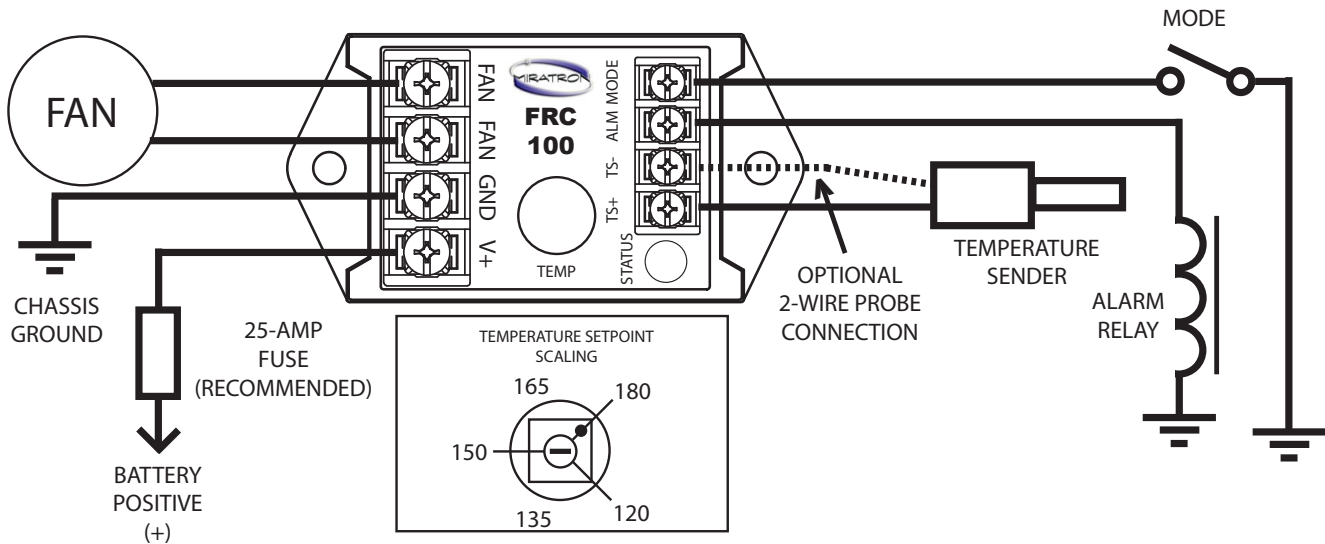
## DIMENSIONS



# SPECIFICATIONS

<b>General</b>	Power Requirement	12-24vdc, 100mA nominal + power to FAN	
	<b>Outputs</b>	Fan	Solid-State proportional output. 25-Amps Max. Output de-energized on overcurrent (>30 amps) fan condition. Reset power to retry.
<b>Operation</b>	Reverse time	10 seconds	
	Ramp on time	5 seconds	
	Alarm	Solid-State open collector, positive output. 0.5-Amp Max. Alarm output energized on fault or above high temperature limit.	
<b>Control Range</b>	Operation	Temperature above setpoint = ramp to 100% output Setpoint adjustment range = 120 to 180degF	
	High Temperature Limit	185degF Alarm output energized.	
<b>Inputs</b>	Temperature	For use with Datcon 02024-00 (Miratron TS10)	
	Mode	Connect to 12 or 24Vdc (battery) and ground TS+ to energize fan.	
<b>Indicators</b>	Fault LED	Solid = Normal operation 1 blink = Open or disconnected fan motor 2 blink = Shorted or overcurrent fan motor 3 blink = Temp sensor open or out of range 4 blink = Over temp alarm	
	<b>Dimensions</b>	Overall	4.0" L x 2.1" W x 1" H
	<b>Environmental</b>	Mounting	Hardware included. Optional mounting bracket available.
	Sealing	Potted electronic module	
	Storage	-40°C to 85°C	
	Operating ambient temperature (FRC100 controller temperature only)	-10°C to 50°C	

# WIRING



### TERMINAL BLOCK LABELS:

TS +	TEMP SENDER (+) OR THERMOSTAT	V+	12/24V BATTERY POS (+)
TS -	TEMP SENDER (-) OR THERMOSTAT	GND	CHASSIS GROUND / BATTERY NEG (-)
ALM	ALARM OUTPUT, 0.5 AMP MAX.	FAN +	FAN OUTPUT, 25 AMPS MAX.
MODE	MODE SELECT	FAN -	FAN OUTPUT, 25 AMP MAX.