Smart reversing fan controller with fault detection

Care and Handling

Failure to follow care and handling instructions will void the warranty and could result in unsafe equipment operation.

Remove unit from machine prior to welding on machine.

Do not paint electrical connectors.

IMPORTANT!

Read this manual completely before operating system.

Keep this manual available for future reference.

Make sure the area is safe for operating equipment before turning power on or starting equipment.

If you encounter any problem or malfunction, discontinue use immediately, and contact your equipment dealer for service or replacement parts.

CAUTION

Improper operation of these controls could cause damage to equipment. Do not allow anyone to operate this equipment before completely reading all manuals.

NOTICE

Miratron, Inc. controls are not intended for life or safety applications. Miratron, Inc. shall not accept responsibility for installation, application, or safety of machine or systems which utilize Miratron, Inc. controls.

OPERATION

Controller monitors temperature sender and controls fan speed 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:

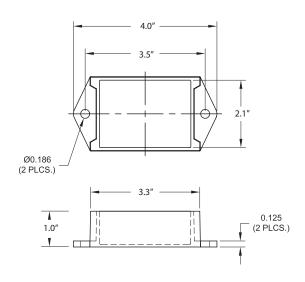|	
Solid	Normal Operation
1 blink (* *)	Fan open / No load
2 blink (** **)	Fan shorted / Over current
3 blink (*** ***)	Temp sensor open
4 blink (**** ****)	Over temp alarm, above 185degF

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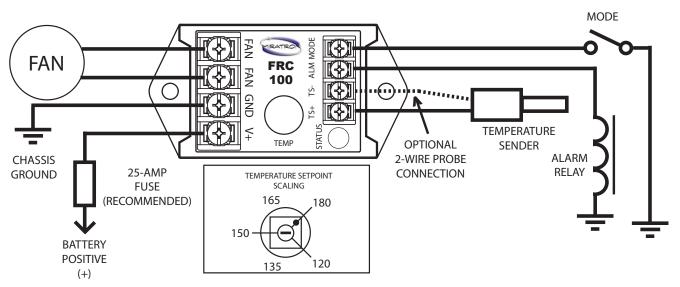
Ground TS+ and MODE to manually run fan at 100%.

DIMENSIONS

4.0″
3.5″
2.1″
Ø0.186
(2 PLCS.)

3.3″
1.0″
0.125
(2 PLCS.)

SPECIFICATIONS

General	Power Requirement	12-24vdc, 100mA nominal + power to FAN
Outputs	Fan	Solid-State proportional output. 25-Amps Max.
		Output de-energized on overcurrent (>30 amps) fan condition. Reset power to retry.
Operation	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.
Control Range	Operation	Temperature above setpoint = ramp to 100% output
		Setpoint adjustment range = 120 to 180degF
	High Temperature Limit	185degF Alarm output energized.
Inputs	Temperature	For use with Datcon 02024-00 (Miratron TS10)
	Mode	Connect to 12 or 24Vdc (battery) and ground TS+ to energize fan.
Indicators	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
Dimensions	Overall	4.0"L x 2.1"W x 1"H
	Mounting	Hardware included. Optional mounting bracket available.
Environmental	Sealing	Potted electronic module
	Storage	-40ºC to 85ºC
	Operating ambient temperature (FRC100 controller temperature only)	-10ºC to 50ºC

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.