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 120-130degF oil temperature. (Other temperature setpoints available. Consult factory.)

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

<table>
<thead>
<tr>
<th>Solid</th>
<th>Normal Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 blink (* *)</td>
<td>Fan open / No load</td>
</tr>
<tr>
<td>2 blink (** **)</td>
<td>Fan shorted / Over current</td>
</tr>
<tr>
<td>3 blink (***) ***</td>
<td>Temp sensor open</td>
</tr>
<tr>
<td>4 blink (**** ****)</td>
<td>Over temp alarm, above 185degF</td>
</tr>
</tbody>
</table>

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.

Energize override input to manually run fan at 100%.

DIMENSIONS

![Diagram of FC100 controller dimensions](image-url)
### 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.
- **Alarm**: Solid-State open collector, positive output. 0.5-Amp Max. Alarm output energized on fault or above high temperature limit.

#### Control Range
- **Operation**: 130degF = ramp to 100%, 120degF = off. Other setpoint temperatures possible. Consult factory.
- **High Temperature Limit**: 185degF Alarm output energized.

#### Inputs
- **Temperature**: Single or Dual wire temperature sender. 10k Ohm. Override: Connect to 12 or 24Vdc (battery) 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**: 3.0” L x 1.6” W x 1” H
- **Mounting Hardware**: Included. Optional mounting bracket available.

#### Environmental
- **Sealing**: Potted electronic module
- **Storage**: -40ºC to 85ºC
- **Operating ambient temperature (FS100 controller temperature only)**: -10ºC to 50ºC

### WIRING

#### TERMINAL BLOCK LABELS:
- **GND**: CHASSIS GROUND / BATTERY NEG (-)
- **GND**: FAN GROUND (IF NEEDED)
- **O/R**: OVERRIDE INPUT (+12/24V)
- **V+**: 12/24V BATTERY POS (+)
- **FAN**: FAN OUTPUT, 25 AMPS MAX.
- **ALM**: ALARM OUTPUT, 0.5 AMP MAX.
- **TS +**: TEMP SENDER (+) (ONE WIRE TYPES)
- **TS -**: TEMP SENDER (-) (TWO WIRE TYPES)

#### INSTALLATION

Optional mounting bracket (FCB)