

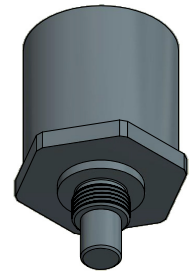
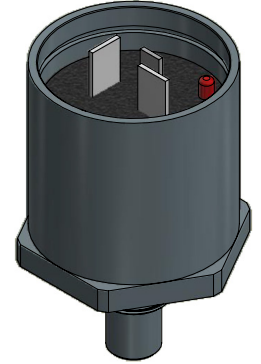
## FCX1 Fan Control Unit

All in one temperature probe and switching relay for simple fan control

P/N: FCX1-SAE8-5/8-P-120-SPD

This combined sensor and controller is designed to mount directly to the Heat Exchanger. It provides accurate temperature control by cycling the electric cooling fan to maintain desired oil temperature. The single housing reduces wiring and mechanical installation. A push button and indication LED is used to select and indicate oil temperature settings.

- Customizable through Pre-set on/off points selectable with push button or fixed on/off setting locked by factory
- Available as FCM1 with separate control module and temperature sensing probe
- Plug terminal connector kit included with purchase
- Optional cable seal boot P/N: FCCP (sold separately)



### Electrical

Set Point	Locked or Programmable
Programmable Set Point Settings	Button used to program Fan On/Off temperature (default Programmable temperature set to 120°F)
Fixed Set Point Settings	Programmable settings preset and locked by factory
Outputs	40 Amp Automotive Rated Control Relays
Input Power	12V or 24V (Sensor will auto-select)
Electrical Protection	Internal spike protection on relay coil and motor under voltage shutoff
LED Indicators	Temperature and Setpoint (See programming instruction for button and LED guide)
Connections	3/8 Faston for motor and 1/4 Faston for power connections

### Housing

Housing Dimensions	3.6" Length x 2" Diameter
Housing Weight	26 oz
Housing Material	Anodized Aluminum
Mounting	Direct thread to fluid port
Probe Threaded Pitch	SAE 8, M20, NPT1/2 or 3/4 NPT (Contact factory for more fitting options)
Probe Length	5/8" (Standard), (Probe length measured from bottom of probe thread to probe end)

### Environmental

Operating Temp	-30° to +105° C
Storage Temp	-40° to +105° C
Humidity	100%
Shock	Electronics 400g/6ms (MIL STD 202)
Vibration	Electronics 5 to 3000 Hz, 20g (MIL STD 202)
Protection Class	IP69K Sealed Electronics

## FCX1 GENERAL ORDERING GUIDE

Code 1: Housing Style	Code 2: Threading Size		Code 3: Probe Length		Code 4: Set Point Control	Code 5: Set Point Temperature (°F)	Code 6: Connection		Code 7: Modifiers
FCX1  <small>*M20, NPT12, and NPT34 limited availability, contact factory</small>	SAE8	SAE #8	5/8	5/8" (Standard)	P	120, 130, 140, 150, 160 (select one)	SPD	Spade	23 Custom Label
	M20	Metric 20mm	8/8	1"			EW	Potted 24" Flying Leads	
	NPT12	NPT 1/2"	10/8	1 1/4"	F	*If code 4 is P, code 5 must be 120			
	NPT34	NPT 3/4"				*If code 4 is F, choose code 5 to set fixed on/off temp			

### Example P/N: FCX1-SAE8-5/8-P-120-SPD

Description: SAE8"  
5/8" Probe (Standard)  
Programmable Set Points  
Spade Connection

### Included Accessory Kit with Code 6: SPD

Plug Terminal Connector Kit:  
1x: 4 pin Relay Socket PR04-WH  
4x: 11 - 10AWG FASTON 250 Quick Disconnect  
2x: 18 - 14AWG FASTON 375 Quick Disconnect

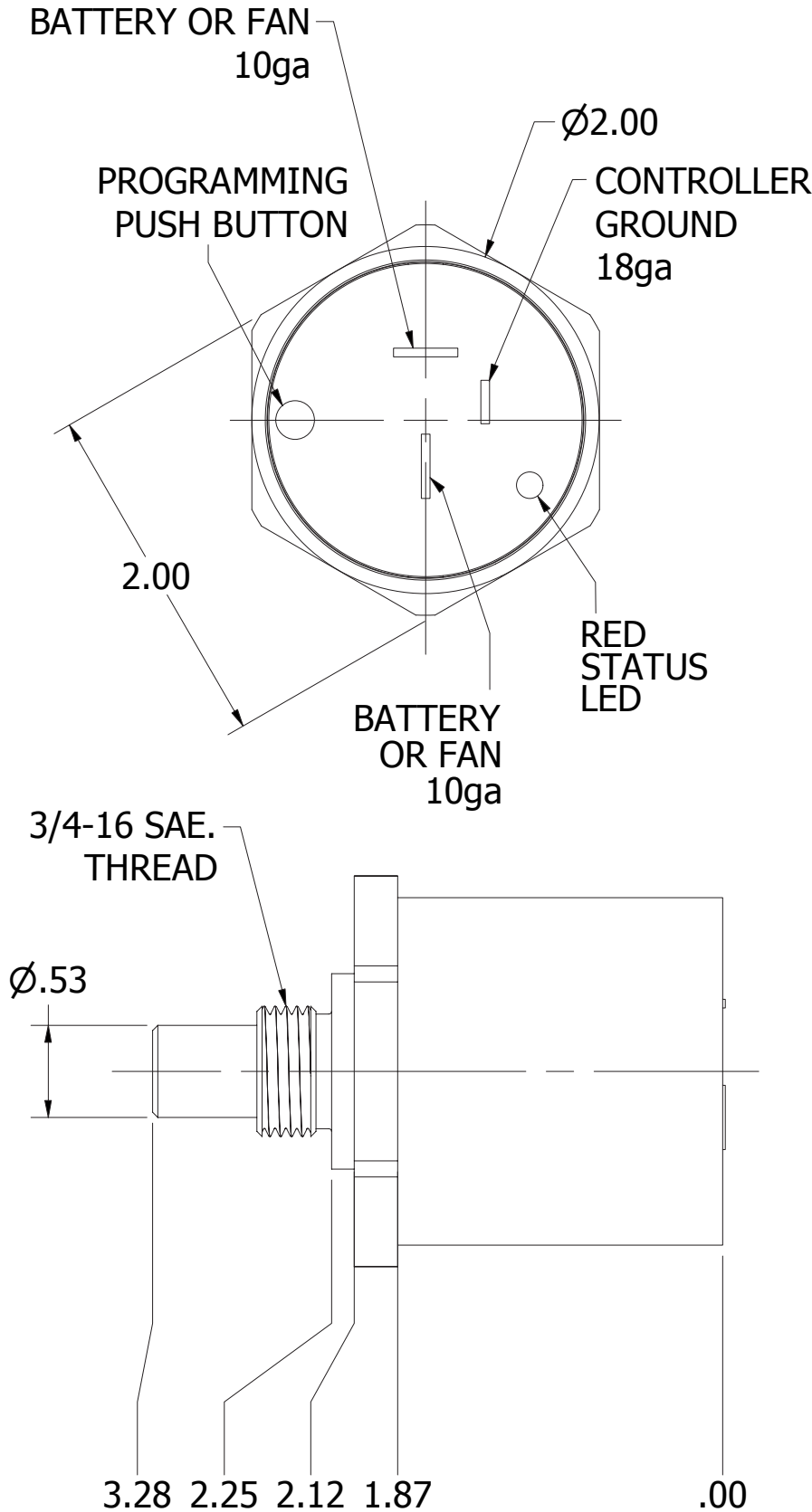
### Optional Accessory (Sold separately)

P/N: FCCP  
Rubber cap rain boot accessory

## Fan Control Unit - Interface Guide

All in one temperature probe and switching relay for simple fan control

P/N: FCX1



### Programming Instructions

The sensor has 3 primary operation modes:

#### 1. Test Mode

To enter test mode, power up the sensor while holding down the button/magnet-wand switch and releasing it after the LED turns off (after approx. 7 seconds).

In this mode, the LED will flash in a repeated pattern based on the reading from the temperature probe:

- 2 short flashes if the probe is reading room temperature (between 60 and 80 degrees F)
- 4 short flashes if the probe is reading below 60 degrees F
- 1 long flash if the probe is reading above 80 degrees F

If the switch is held down in this mode, the fan relay and LED will be forced on. Releasing the switch will turn the relay off, and the LED will resume flashing the appropriate pattern.

NOTE: If the switch is held down for approx. 12 seconds on power-up, the sensor will recognize this as an error state and enter failure mode – the fan relay will be forced on until the next power cycle, and the LED will be forced off to indicate a failure.

#### 2. Program Mode

To enter program mode, power up the sensor while holding down the button/magnet-wand switch and releasing it before the LED turns off.

In program mode, toggle the switch until the desired temperature set point is selected. The LED will flash in a pattern to indicate which setting is selected:

- 1st setting (120 F): 2 short flashes
- 2nd setting (130 F): 3 short flashes
- 3rd setting (140 F): 4 short flashes
- 4th setting (150 F): 1 long flash
- 5th setting (160 F): 1 long and 1 short flash

If desired, hold the switch for approx. 3 seconds to return the temp switch to the default setting (120 F).

NOTE: In this mode, the temperature probe and fan relay are deactivated, meaning the fan will not turn on at all. Be sure to power cycle the sensor after programming it.

#### 3. Run Mode

To enter run mode, power up the sensor without holding down the button/magnet-wand switch.

In run mode, the fan relay will switch on when the temperature reaches the set point and switch off when the temperature falls to 5 degrees less than the set point.

About every 5 seconds, the LED will flash a "heartbeat" pattern to indicate that the sensor is operating. The LED will blink once if the fan relay is off, and twice if the relay is on.

Every third heartbeat, the LED will instead flash a pattern indicating the current temperature level in degrees F:

- 110 to 120 degrees F – 1 short flash
- 120 to 130 degrees F – 2 short flashes
- 130 to 140 degrees F – 3 short flashes
- 140 to 150 degrees F – 4 short flashes
- 150 to 160 degrees F – 1 long flash
- 160 to 170 degrees F – 1 long and 1 short flash
- 170 to 180 degrees F – 1 long and 2 short flashes
- 180 to 190 degrees F – 1 long and 3 short flashes

NOTE: If the temperature is below 110 degrees F, the LED will always flash the regular heartbeat pattern. If the temperature is above 190 degrees F, the LED will remain constantly on instead of flashing any heartbeat or temperature pattern.

If desired, the button/magnet-wand switch may be held down to manually force the fan relay on. The LED will continue flashing the appropriate heartbeat/temperature pattern. Releasing the switch will turn the relay off, assuming the temperature has not risen to the set point while the switch was held down.