SoliStat™ Temperature Controls
Tamper-Proof D.C. Temperature Controls for Harsh Environments
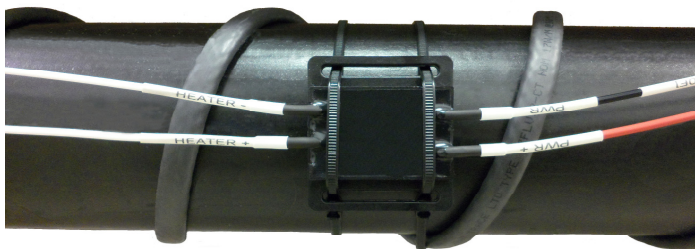
U.S. Patent 8,500,034

Overview

Ease of Use, Unequaled Performance
engenity's SoliStat 2 is the basis for a family of reliable and easy to use temperature controlled switches for D.C. powered heating and cooling applications. Ranging from the original SoliStat 2-10—a self-contained, temperature control for loads up to 10A—to the SoliStat 2XD—a compact, dual loop temperature controller for loads up to 10A per channel—all members of the SoliStat family of temperature controls share the following design characteristics:

- Accurate, tamper-proof setpoints
- MTBF > 5M cycles
- Operating temperature range from –40°C to +125°C
- Accurate trip point temperatures below 32°F
- Rugged, weather-proof housing

Solid-State Reliability
All SoliStat models utilize semiconductor output switches that are heavily protected against ESD. In addition, the outputs will withstand the counter-EMF generated at switch-off by many inductive loads. Because of this SoliStat will outlast any relay or contactor that may have been considered for your application.

SoliStat 2 in a 12VDC heat tracing application (insulation removed).

Applications

The SoliStat line of temperature controls have been developed for D.C. powered applications that require on/off control in response to changing temperatures, such as:

- Turning on fans or compressors for cooling applications
- Controlling power to heaters or heat trace cable
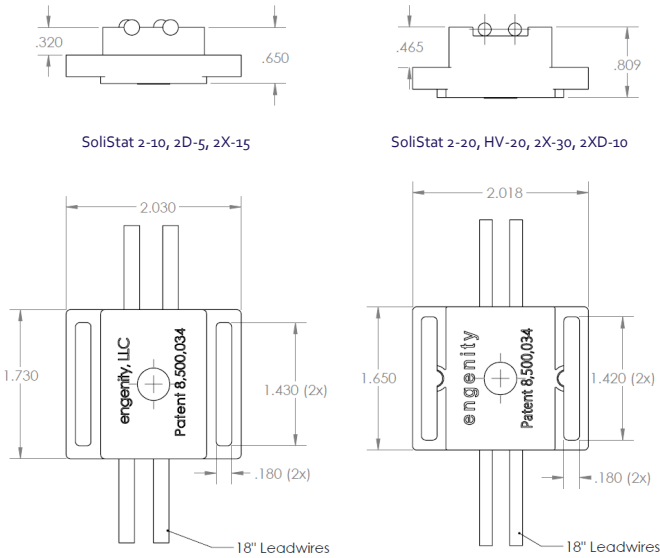- Switching on pumps for heating or cooling

Specific applications of SoliStat controls include:

- Heating CCV filters in Tier IV diesel engines
- Condensate freeze prevention in CCV drain lines
- Freeze prevention of DEF lines in diesel locomotives
- Diesel fuel filter and fuel line warming
- Battery cabinet warming
- Vapor Recovery Unit freeze prevention
- Telemetry equipment cabinet warming and cooling
- Water line and water filter freeze prevention
- Seize-up prevention in pneumatic valves

SoliStat 2XD-10 with heaters for a CCV filter warming application

Standard Product Dimensions (inches)

SoliStat 2-10, 2D-5, 2X-15

SoliStat 2-20, HV-20, 2X-30, 2XD-10

Standard Features

- Operating Temperature: –40°C (–40°F) to +125°C (+257°F)
- Storage Temperature: –65°C (–76°F) to +150°C (+302°F)
- Set-point Tolerance: ± 1.1°C (± 2°F)
- Housing Material: Mineral Filled Nylon
- Sensor Heatsink: Anodized Aluminum
- Leads: stranded wire, ETFE insulation MIL-W-22759/16
- Lead Length: 18" standard, other lengths available
- Dust and Water Resistance: IP67
- RoHS Compliance: Yes

- All SoliStat configurations can be programmed for heating mode or cooling mode.
- SoliStat configurations with two output channels can be programmed for heat/cool mode.
- SoliStat can be programmed for either ON/OFF or fixed ON-time control. PID control available on request; consult the factory or your local representative for details.

SoliStat Configurations

Standard SoliStat temperature controls are available in the following configurations:

Product	Operating Voltage Range	Sensor Channels	Sensor	Output Channels	Maximum Output Current	Shutdown Mode Available
SoliStat 2-10	6—24V	1	Int. RTD	1	10A	Y
SoliStat 2-20	6—24V	1	Int. RTD	1	20A	Y
SoliStat 2D-5	6—24V	1	Int. RTD	2	5A/ch	Y
SoliStat HV-20	20—48V	1	Int. RTD	1	20A	N
SoliStat 2X-15	6—24V	1 or 2	Ext. RTD or K t/c	1	15A	Y
SoliStat 2X-30	6—24V	1 or 2	Ext. RTD or K t/c	1	30A	Y
SoliStat 2XD-10	6—24V	1 or 2	Ext. RTD or K t/c	2	10A/ch	Y

Other Temperature Controls

SoliStat's not quite right for your application? Give us a call; we can probably help you out. We have designed customer-specific controls for applications requiring more than two input channels, more than two output channels, sources up to 100VDC, and total system current to 100ADC.

⚠ **SoliStat 2 is not protected against long-term accidental reverse polarity connection to the power supply. Please consult your local representative or the factory if you require reverse polarity protection!** ⚠

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