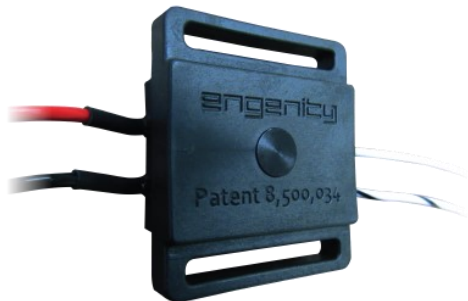


# SoliStat™ Temperature Controls

## Tamper-Proof D.C. Temperature Controls for Harsh Environments

U.S. Patent 8,500,034



### Overview

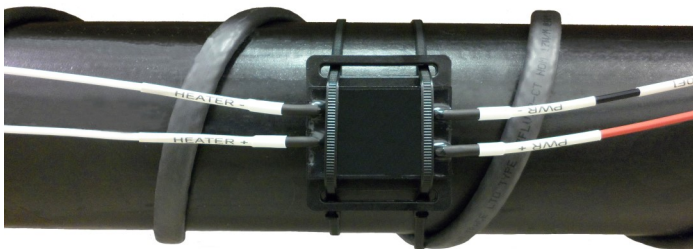
#### Ease of Use, Unequaled Performance

engenuity's SoliStat 2 is a family of reliable and easy to use temperature controlled switches for DC-powered applications. The SoliStat family ranges from SoliStat 2-10, for loads up to 10A, to SoliStat 2X for loads up to 30A. SoliStat is also available in two-channel versions for applications requiring control of both heating and cooling elements. 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  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Accurate trip point temperatures below  $0^{\circ}\text{C}$
- Rugged, weather-proof housing

#### Solid-State Reliability

All SoliStat devices are designed to withstand ESD events in excess of IEC 61000-4-2 Level 4. In addition, the outputs will withstand the counter-EMF generated at switch-off by inductive loads. Because of this, SoliStat will outlast any relay or contactor.



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

### Applications

SoliStat temperature controls have been developed for DC-powered applications that require on/off control in response to changing temperatures, such as:

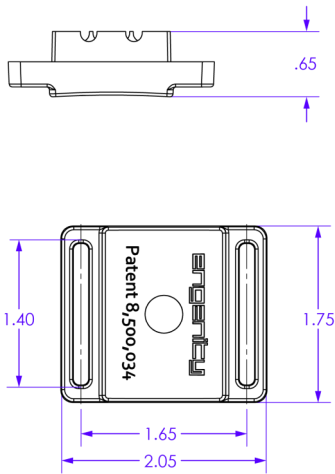
- Switching on fans or compressors for cooling
- Controlling power to heaters or heat trace cable
- Enabling control of both heating and cooling elements

Specific applications of include:

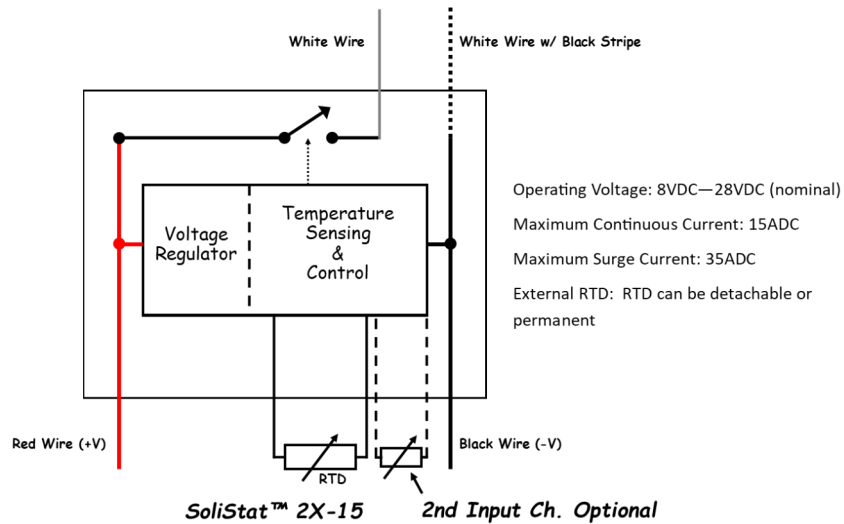
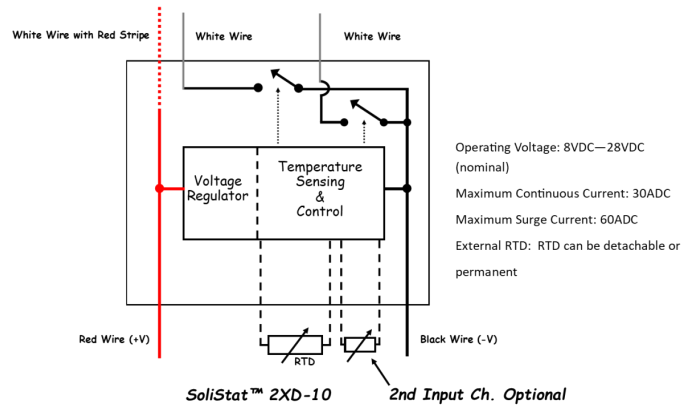
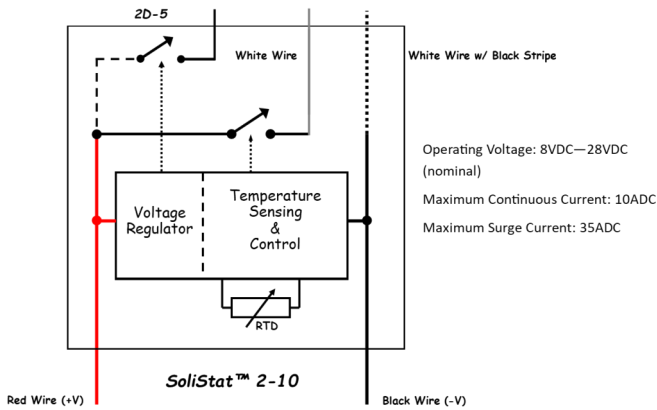
- Heating CCV filters in Tier IV diesel engines
- Condensate freeze prevention in CCV and exhaust gas lines
- Freeze prevention of DEF lines in diesel engines
- Diesel fuel filter and line warming
- Battery cabinet warming
- Vapor recovery unit (VRU) freeze prevention
- Telemetry equipment cabinet warming and cooling
- Water line and water filter freeze prevention
- Seize-up prevention in pneumatic valves

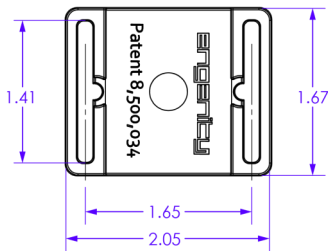
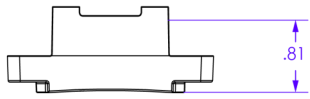


*SoliStat 2XD-10 with heaters for a CCV filter warming application*

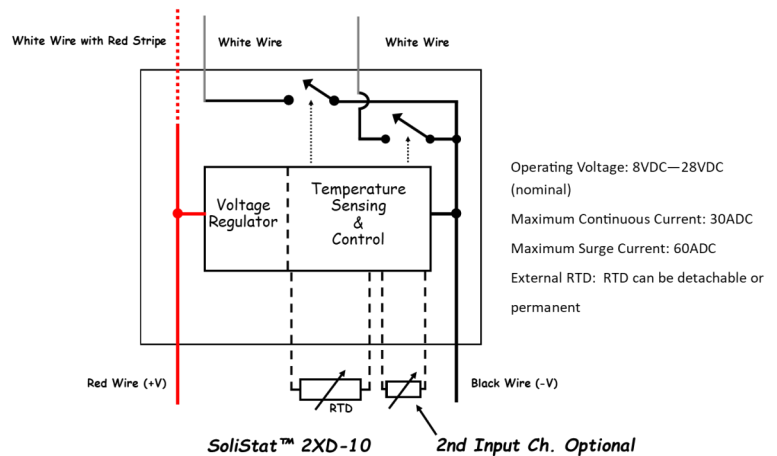
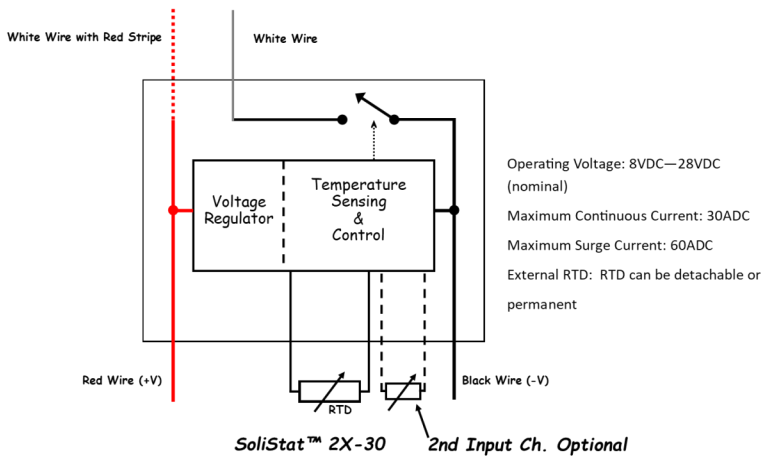
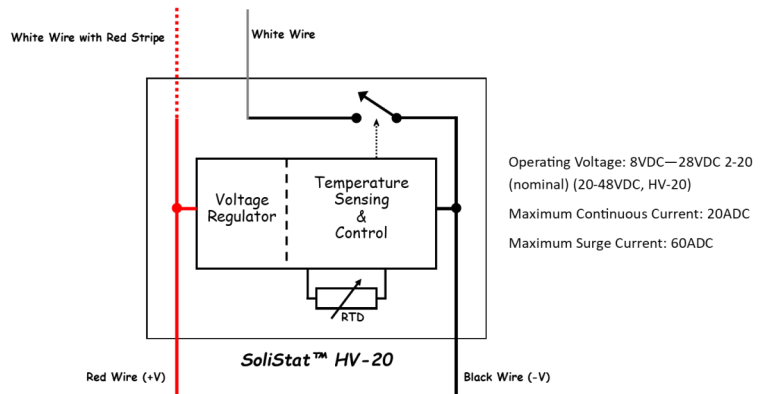
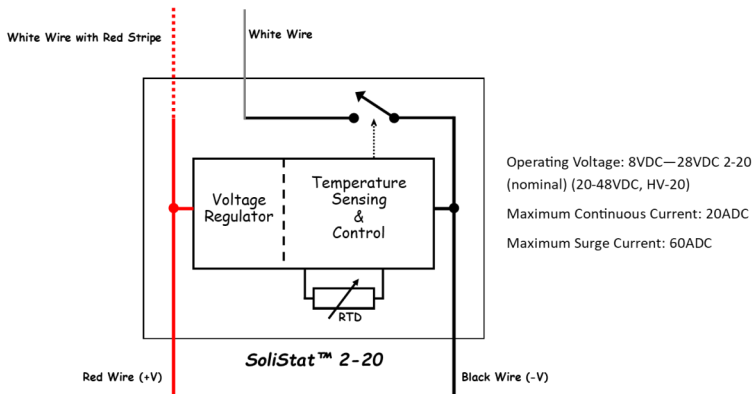


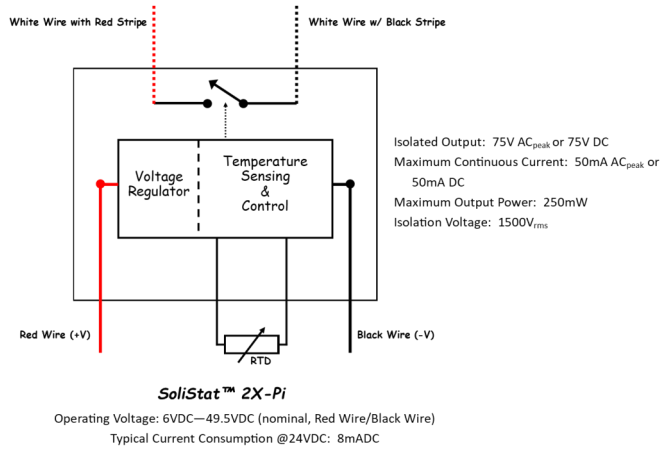
Product	Operating Voltage Range	Sensor Channels	Sensor	Output Channels	Maximum Output Current	Shutdown Mode Available
SoliStat 2-10	8—28V	1	Int. RTD	1	10A	Y
SoliStat 2D-5	8—28V	1	Int. RTD	2	5A/ch	Y
SoliStat 2X-15	8—28V	1 or 2	Ext. RTD or K t/c	1	15A	Y





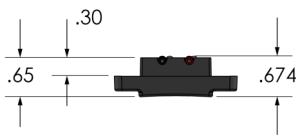
Product	Operating Voltage Range	Sensor Channels	Sensor	Output Channels	Maximum Output Current	Shutdown Mode Available
SoliStat 2-20	8—28V	1	Int. RTD	1	20A	Y
SoliStat HV-20	20—48V	1	Int. RTD	1	20A	N
SoliStat 2X-30	8—28V	1 or 2	Ext. RTD or K t/c	1	30A	Y
SoliStat 2XD-10	8—28V	1 or 2	Ext. RTD or K t/c	2	10A/ch	Y
SoliStat 2X-Pi	6—49.5V	1	Ext. RTD	1	50mA	N



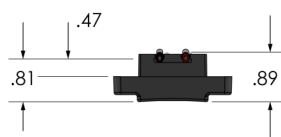


### Standard Product Dimensions (inches)

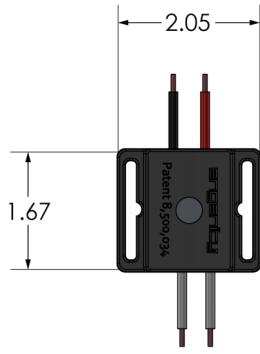
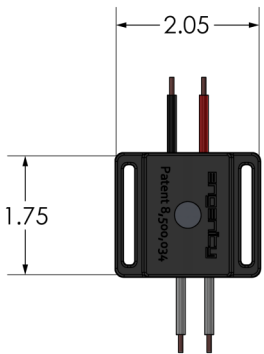
### Standard Features



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



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



- Operating Temperature:  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) to  $+125^{\circ}\text{C}$  ( $+257^{\circ}\text{F}$ )
- Storage Temperature:  $-65^{\circ}\text{C}$  ( $-76^{\circ}\text{F}$ ) to  $+150^{\circ}\text{C}$  ( $+302^{\circ}\text{F}$ )
- Set-point Tolerance:  $\pm 1.1^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{F}$ )
- Housing Material: Mineral Filled Nylon
- Sensor Heatsink: Anodized Aluminum
- Leads: 12AWG or 14AWG power leads  
20AWG external sensor input 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 SoliStats can be programmed for heating mode or cooling mode only.  
 SoliStats 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 is available on request; consult the factory or your local representative for details.

### 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 200ADC.



**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!**



Made in the U.S.A.

www.engenuity.com



engenuity, LLC  
 739 Kasota Avenue SE  
 Minneapolis, Minnesota 55414-2842  
 +1 (612) 767-9590