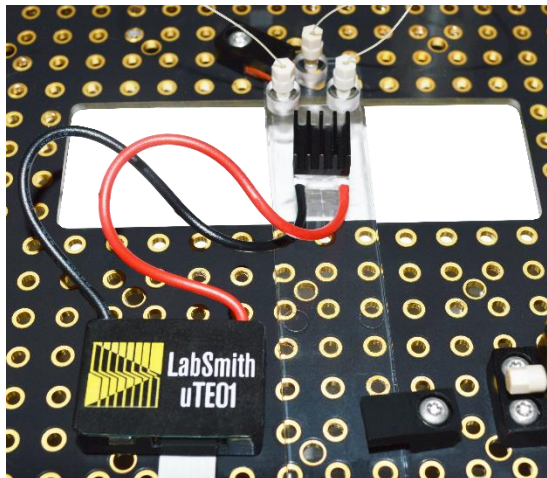


LabSmith uProcess™ Thermal Control Products



- *uTE-series* thermal-electric modules and *4PM01* power module for controlled heating and cooling
- *uTS-series* temperature sensors and *4AM01* analog sensor module for on-chip or in-fluid temperature measurement
- Interfaces with uProcess™ software for coordinated micro-system control

uTE-Series Thermal-Electric Module

Part Number Specification: uTE01-[PELTIER]

Required Interface	4PM01 four channel power module (connects via 6-pin flat flex ribbon cable)			
Mounting holes	two M2x0.4 threaded holes, 12.7 mm (0.5") spacing			
Maximum Temperature / ΔT	130° C / 67° C			
Peltier Options [PELTIER]	Size (mm)	Qmax (W)	Vmax (V)	I _{max} (A)
040808	8.3 × 8.3 × 2.3	4.3	3.9	2.0
132020	20 × 20 × 4.0	13	3.7	6
151530	15 × 30 × 3.7	15	4.2	6

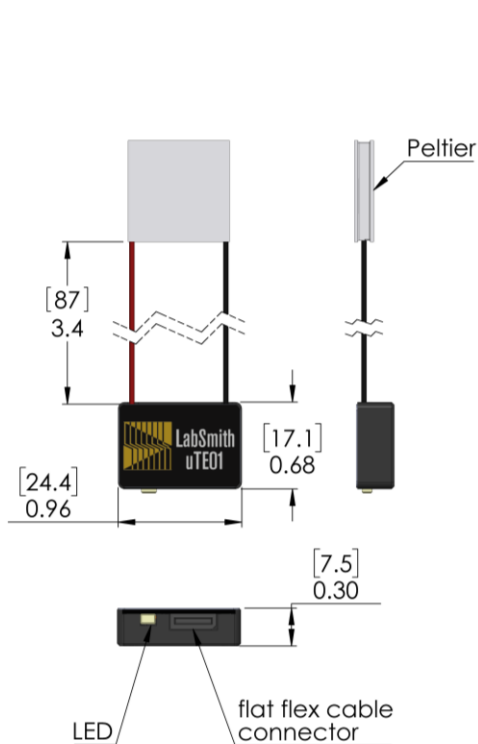
uTS-Series Temperature Sensor

Part Number Specification: uTS01-[TC]-[L]

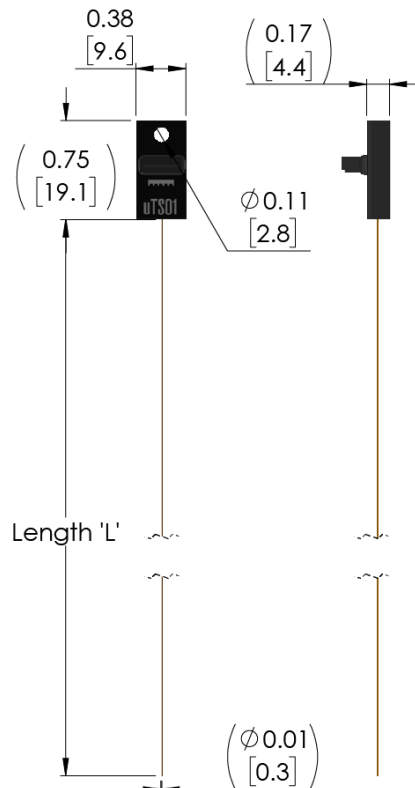
Temperature Range	−150° C — 200° C			
Accuracy	0.5° C			
Resolution	0.001° C			
Sensor type	K type thermocouple			
Required Interface	4AM01 four channel analog module (connects via 6-pin flat flex ribbon cable)			
Length in cm [L]	20 or 60 cm (custom lengths available)			
Mounting hole	2.8 mm (0.11") through-hole for mounting to uProcess breadboard via 2-28-1/4" screw			
Sensor Options [TC]	Wire Gauge	Tip Diameter (mm)	Tip Insulation	Wire Insulation
STD	36	0.3 - 0.4	None	PFA
INS	24	2.5 - 3.0	FEP	FEP

uProcess™ Thermal Control

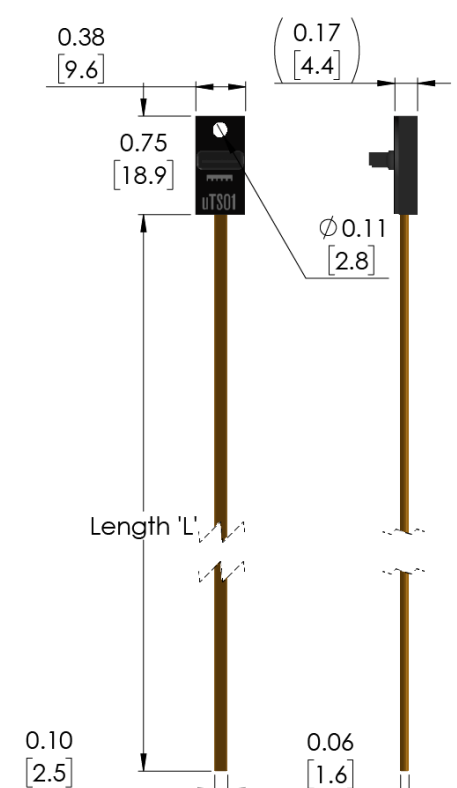
uTE01-[PELTIER]



uTS01-STD-[L]



uTS01-INS-[L]



Accessories	
EIB200: USB Interface for computer control of 4AM01, 4PM01, and other uProcess devices; includes uProcess™ software, LabVIEW™ drivers, and SDK.	
4AM01: Analog manifold for control of up to 4 uTS temperature sensors or uPS pressure sensors.	
4PM01: Power manifold for automatable and closed-loop control of up to 4 uTE thermal-electric modules or other loads.	
Voltage range	-5 to 5 V
Current range	-4 to 4 A
Maximum Power	15 W
uTE heat sink: HS-0808 (8.9 x 8.9 mm) or HS-2020 (20 x 20 mm) black anodized aluminum heat sink with adhesive backing.	
uProcess™ breadboard (uPB-05, uPB-08, uPB-12, or iBB): Optional platform for mounting uProcess™ devices and CapTite™ components.	