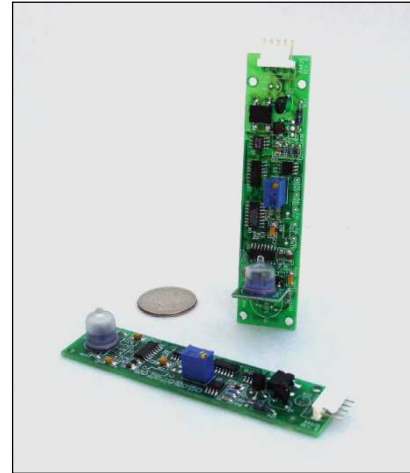


Model C901, C902 Tulip 4-20mA

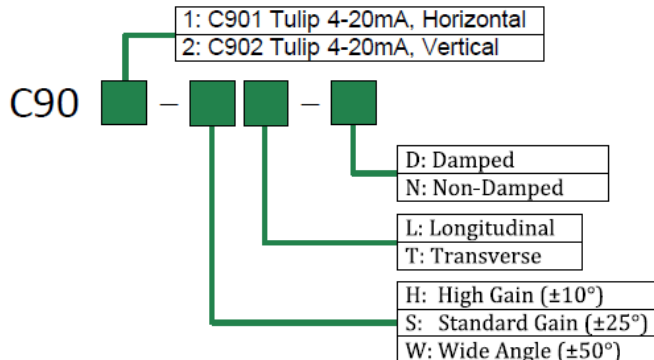
The model C901 and C902 Tulip Uniaxial Clinometers deliver the same performance as our model A900-series, but with 4-20mA output. Units are available in horizontal (C901) or vertical (C902) mounting packages. The Tulip conveniently operates as a 2-wire 4-20mA current loop, and also includes an on-board thermistor for temperature measurement. Use the Tulip with industrial PLC's, platform position and control, OEM assemblies, and all other applications with 4-20mA output requirements.



	High-Gain	Standard	Wide-Angle
Angular Range	±10°	±25°	±50°
Resolution ¹	0.005°	0.01°	0.02°
Repeatability	0.01°	0.02°	0.04°
Scale Factor* ²	1.25°/mA	3.125°/mA	6.25°/mA
Non-Linearity ³	1%	2.5%	7%
Output	4-20mA		
Channels	Tilt, Thermistor		
Kz Coefficient (deg/C)	10-20 arcsec/C (typical)		
Ks Coefficient (%/C)	0.03%/C (typical)		
Time Constant	0.15 sec		
Natural Frequency	10 Hz		
Output Impedance	270 ohms, short circuit protected		
Power	(0.02 Ampere x R + 10 VDC) < Vs < 29 VDC		
Environmental	-40 to +85 C operating and storage. 0-90% humidity		
Dimensions	See Drawing (page2)		
Materials	Glass electrolytic sensor, fiberglass PCB		

**Specifications subject to change without notice on account of continued development; ¹Resolution calculated at .003 mA; ²Linear scale factor calculated from BFSL through calibration curve; ³Linearity calculated as max % deviation from BFSL. 0.05% linearity achievable using a polynomial*

Ordering Code:



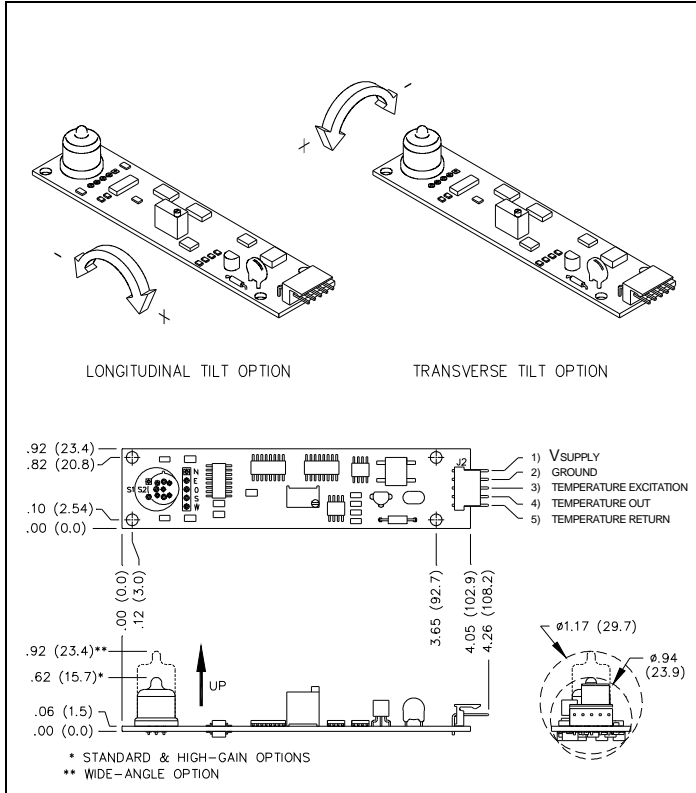
Pin-out/Wiring:

Pin	Color	Function
1	Red	V+
2	Black	GND
3	Blue	Temp Excitation
4	Yellow/Orange	Temp Out
5	White	Temp Return

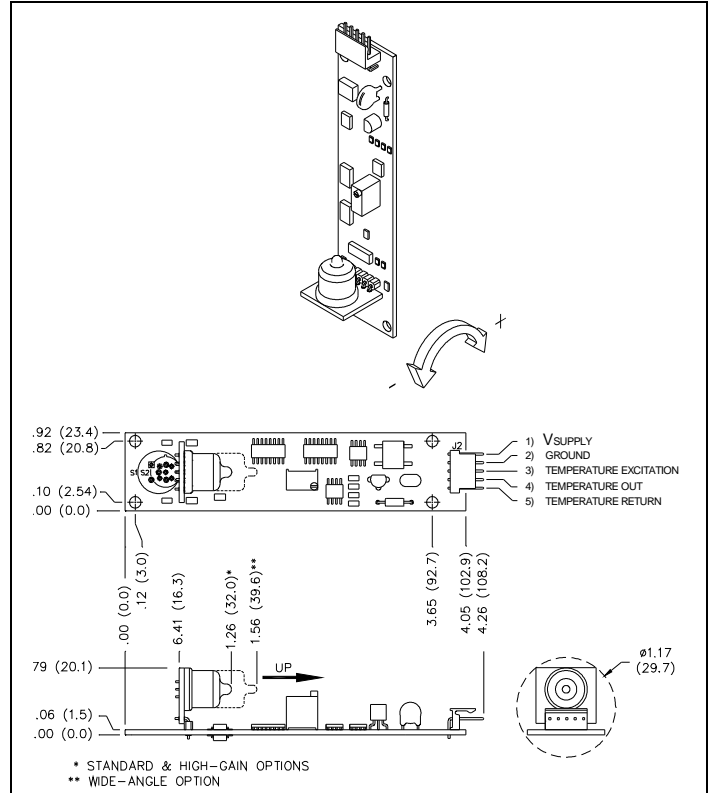
Model C901, C902 Tulip 4-20mA

Dimensions and Wiring:

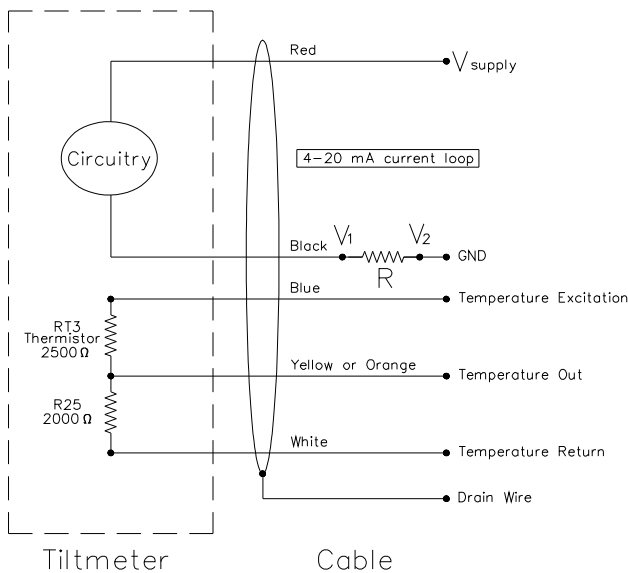
C901 Tulip 4-20mA Clinometer (Horizontal)



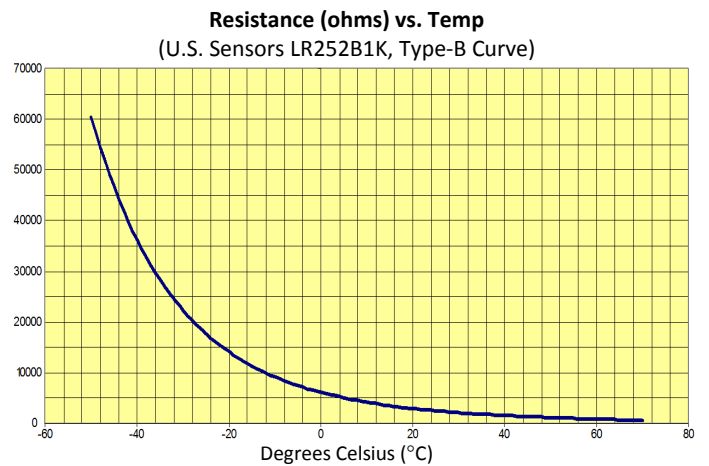
C902 Tulip 4-20mA Clinometer (Vertical)



Circuit Diagram



Thermistor Output



$$T = 1/[A + B \ln(RT_3) + C \ln(RT_3)^3 + D \ln(RT_3)^5] - 273.15$$

where T is in degrees Celsius and RT₃ = thermistor resistance.
 A = 7.34862E-04; B = 3.38205E-04; C = -1.30862E-07; D = 1.21751E-09