

REV	ECN No.	DESCRIPTION	BY	DATE
C	N/A	REMOVED CASE LOCK NUT	MC	2009 03 31

**SPECIFICATIONS:**

**THERMOMETER:**  
CASE: HIGH-IMPACT ABS, BLACK.  
RANGE: -50/300°F (-45/150°C)  
DISPLAY: 1/2" LCD.  
ACCURACY: 1% OF READING OR 1".  
RESOLUTION: 1/10" FROM -19.9 TO 199.9  
LUX RATING: 1 LUX (1 FOOT-CANDLE).  
UPDATE: 10 SECONDS.  
OPERATING AMBIENT: -30/140°F & 100% HR.  
AMBIENT ERROR: ZERO.  
SENSOR: THERMISTOR BASED.

**TRANSMITTER:**  
RANGE: -58/302°F (-50/150°C)  
OUTPUT: 4 TO 20 mA.  
OPERATING AMBIENT: -15/185°F (-25/85°C)  
AMBIENT ERROR: .01% SPAN (°C).  
SUPPLY: 8 TO 35 VDC.  
MAX. LOAD R: 775Ω WITH 24VDC SUPPLY.  
ACCURACY: 0.1% OF SPAN.  
SENSOR: PLATINUM 100Ω RTD.

**STEMS:**  
INDUSTRIAL, FED SPEC. GGT-321D  
1/2 NPT TYPE PER ASME B40.3

DRAWING PER ANSI Y14.5M-1994		TITLE: DVUT VARI-ANGLE DIGITAL THERMOMETER WITH TRANSMITTER -SPECIFICATIONS-	
ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS SPECIFIED:		DRAWN: M CUBILLO DATE: 2006 05 10	
DECIMAL .XX ±.010 DECIMAL .XXX ±.005 ANGLES ±1°		APPRV: JOHN WEISS SCALE: 1:2 SIZE: A	
THIRD ANGLE PROJECTION		WEISS INSTRUMENTS, INC. A Quality Commitment - Since 1882 905 WAVERLY AVE., HOLTSVILLE, NEW YORK 11742 PHONE: 631 207 1200 - FAX: 631 207 0900 www.weissinstruments.com	
DRAWING NO: 015-0278 (Sheet 1 of 2)		REV C	

**INSTALLATION INSTRUCTIONS:**

**DESCRIPTION OF OPERATION.**

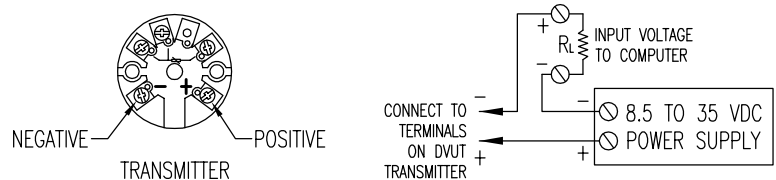
The Weiss DVUT is manufactured with two separate sensors within the probe. The solar-powered display is independent of the transmitter output. The transmitter is a regulator that controls the milliamp current relative to temperature when wired in a current loop as shown in the accompanying wiring diagram. The milliamp range is from 4 mA at -50°C to 20 mA at 150°C and is proportional within this range. To convert the current to a voltage, a precision load resistor, R, is used in the current loop, a 250 Ω resistor will have a voltage across equal to  $V=iR$  or at -50°C  $V=.004*250 = 1$  volt and at 150°C  $V=.020*250 = 5$  volts. The chart shows the relation of temperature, current and voltage with the recommended 250 Ω resistors.

**CALIBRATION.**

The DVUT is shipped already calibrated, should a field check or adjustment be necessary the following applies:

**Display calibration:** With the stem stabilized in a known temp. bath, melting ice chips at 0°C (32°F) for example, or at the use temperature, remove the access plug on the back of the thermometer and with a small screw driver adjust the potentiometer on the back of the PCB, turn slowly and wait 10 seconds for the update before readjusting.

**Transmitter calibration:** Calibration parameters are adjusted electronically at the factory and the parameters loaded into the transmitter. There is no further need for zero or span adjustment in the field. The transmitter is programmed to provide the top range temp. reading should the sensor fail or be disconnected.



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A	N/A	RELEASED	MC	2006 05 11
B	N/A	TRANSMITTER SPECS UPGRADED	MC	2008 05 09
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FOR R<sub>L</sub>=250Ω

V	mA	F	C
1.0	4.0	-58	-50
1.2	4.8	-40	-40
1.4	5.6	-22	-30
1.6	6.4	-4	-20
1.8	7.2	14	-10
2.0	8.0	32	0
2.2	8.8	50	10
2.4	9.6	68	20
2.6	10.4	86	30
2.8	11.2	104	40
3.0	12.0	122	50
3.2	12.8	140	60
3.4	13.6	158	70
3.6	14.4	176	80
3.8	15.2	194	90
4.0	16.0	212	100
4.2	16.8	230	110
4.4	17.6	248	120
4.6	18.4	266	130
4.8	19.2	284	140
5.0	20.0	302	150

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