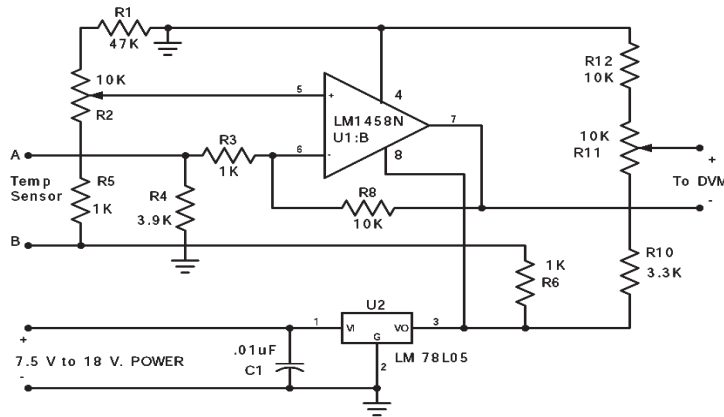


DIGITAL THERMOMETER ADAPTER



PARTS LIST

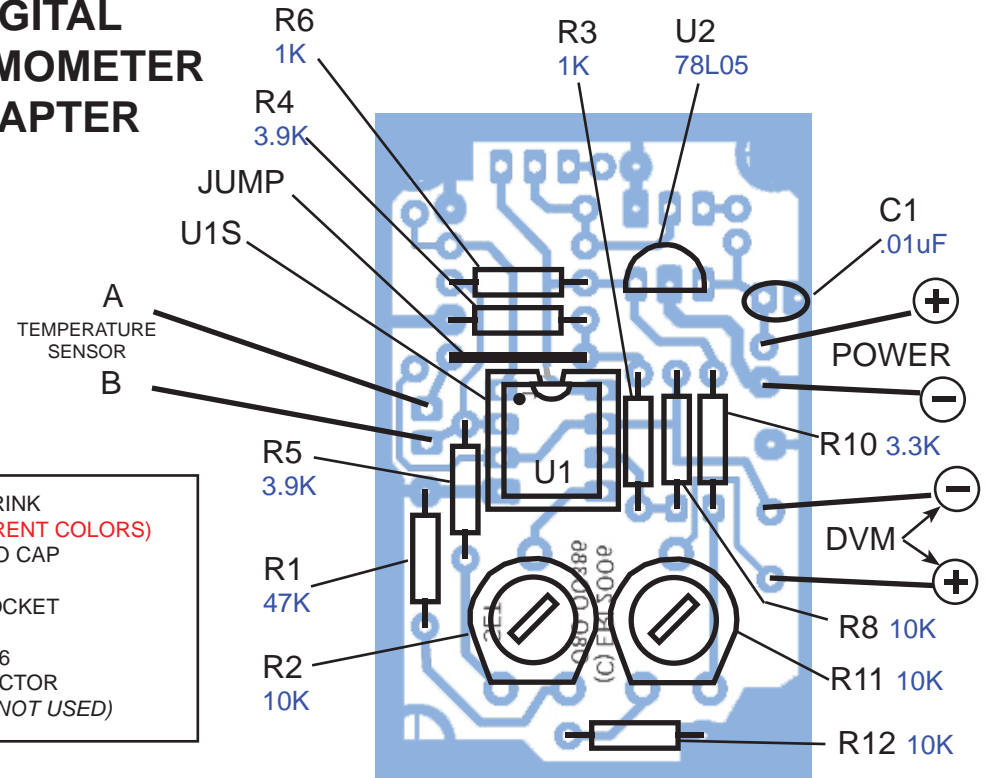
()	R1	47 K OHM RES (YEL VIO ORG)	()	1/4" HEATSHRINK	
()	R2,R11	10 K OHM TRIM POT (HORIZONTAL)	()	2 18" WIRES (DIFFERENT COLORS)	
()	R3,R6	1 K OHM RES (BRN BLK RED)	()	C1	.01 uF MONO CAP
()	R4,R5	3.9 K OHM RES (ORG WHT RED)	()	U1	LM1458 IC
()	R10	3.3 K OHM RES (ORG ORG RED)	()	U1S	8 PIN IC SOCKET
()	R8,R12	10 K OHM RES (BRN BLK ORG)	()	U2	LM78L05 IC
()	SEN1	TEMP. SENSOR TRANSISTOR (2N2222 or 2N3904)	()		PC BOARD 080-00386
()			()		9v BATTERY CONNECTOR (R7, R9, Q1, Q2 ARE NOT USED)
()	1/8"	HEATSHRINK			

ASSEMBLY AND TEST INSTRUCTIONS

1. INSERT AND SOLDER ALL OF THE RESISTORS
2. INSERT JUMP. A PIECE OF PLAIN WIRE LIKE A RESISTOR LEAD SOLDERED FROM ONE HOLE ON THE PCB TO OTHER AS SHOWN ON THE DIAGRAM.
3. INSERT AND SOLDER C1
4. INSERT AND SOLDER U1 AND U2 **WATCH ORIENTATION**
5. INSERT AND SOLDER A POWER CONNECTOR - **WATCH POLARITY**
6. CONSTRUCT TEMPERATURE SENSOR USING THE TRANSISTOR SUPPLIED (SEE DRAWING)
7. FIND LEGS 'B' 'C' ON TRANSISTOR AND SOLDER LEGS 'B' AND 'C' TOGETHER.
8. SOLDER THE 'B' WIRE TO THE END OF THE 'C' WIRE (SEE DRAWING)
9. SOLDER THE 'A' WIRE TO THE END OF THE 'E' WIRE (SEE DRAWING)
10. SLIP 1/8" HEATSHRINK OVER THE 'B' AND 'C' CONNECTION ISOLATING IT FROM THE 'A' WIRE AND HEATSHRINK.
11. SLIP 1/4" HEATSHRINK OVER ALL THE SOLDER CONNECTIONS AND 1/8" HEATSHRINK, ALSO SLIP THE HEATSHRINK 1/2 THE WAY UPON THE TRANSISTOR (SEE DRAWING).
NOTE: To waterproof temperature sensor, put silicon over the connections, then heatshrink.
12. INSERT AND SOLDER THE TEMPERATURE SENSOR WIRES TO THE BOARD.

CALIBRATION PROCEDURE

1. TOUCH THE ⊕ LEAD OF THE DVM TO U1 PIN 7 AND THE ⊖ LEAD TO THE GROUND.
* ADJUST R2 TO A READING OF 2.5 TO 3 VOLTS.
2. CONNECT THE DVM AS SHOWN ON THE SCHEMATIC AND THE PCB LAYOUT. SET THE DVM ON 2 VOLT DC SCALE, THIS WILL GIVE YOU READINGS TO 0.1 OF A DEGREE. ON MOST DVM'S YOU MUST DISREGARD THE DECIMAL POINT LOCATION. * PUT THE PROBE FROM THE DT-3 AT THE SAME LOCATION AS THE PROBE FROM A KITCHEN OR OTHER TYPE THERMOMETER. ADJUST R11 SO THE DVM READS THE SAME AS THE THERMOMETER.
3. IF YOU DESIRE GREATER TRACKING ACCURACY FROM YOUR DT-3 KIT, YOU CAN REPLACE R8 WITH A 7.5K OHM RESISTOR AND A 5K OHM POT CONNECTED IN A SERIES. YOU CAN ADJUST THE VALUE OF THE 5K POT FOR THE BEST LOW TO HIGH TEMPERATURE ACCURACY.

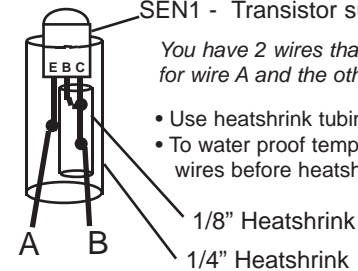


TEMPERATURE SENSOR

SEN1 - Transistor supplied with kit.

You have 2 wires that are different colors. Use 1 color for wire A and the other color for wire B

- Use heatshrink tubing to keep shorts from occurring.
- To water proof temperature sensor, put silicon over wires before heatshrinking.



DT-3D

10-20-2011

DIGITAL THERMOMETER ADAPTER

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