

**No. 1490 Sensor** may be operated from input voltage of 5 to 20 volts DC with 8 to 13 recommended. Input should be both "spike" and polarity protected. Power requirement is approximately 30 mls (0.030 amps).

Output will sink up to 25 mls (0.025 amps) per output channel. The sensor will switch so that no more than two adjacent output channels are "on" at any one time.

Output is **open collector NPN** sinking the output to ground, thus does not add to the input requirement.

No. 1490 Sensor is internally designed to respond to directional change similar to a liquid filled compass. It will return to the indicated direction from a 90° displacement in approximately 2.5 to 3.5 seconds with no overswing.

Sensor No. 1490 should be operated in a vertical position. The sensor indicates the horizontal component or compass component of the earth's field. If off vertical, some of the vertical component of the earth's field is introduced which may create some directional error. Generally, tilt up to 12° is acceptable with little error.

The sensor is manufactured for pins down operation but may be furnished for pins up operation on request at no extra cost. The sensor operates equally well pins up or down.

No. 1490 sensor weighs approximately 2.25 grams. The dimensions are shown on the drawing upper left. Operating temperature is -20° C to +85° C. The sensor may be stored without damage in wider temperature limits and may be subjected to high flux levels (up to 1000 gauss) without permanent damage.

No. 1490 sensor and sensing systems are covered by issued patents and patents pending.

The pins are on 0.050 centers but may be distorted for 0.100 spacing without damage to the sensor or its measurements. The four V<sub>cc</sub> and four grounds may be common connected.

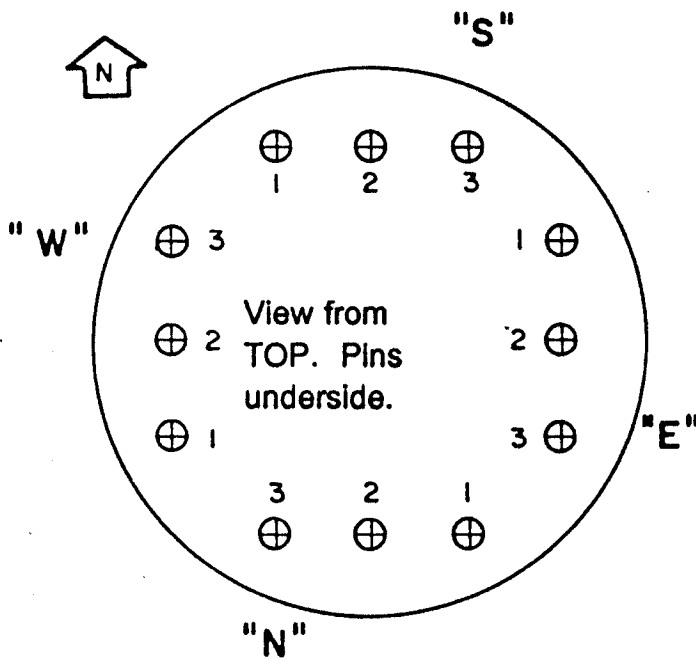
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1814 REMELL STREET  
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# PIN-OUT FOR DIGITAL COMPASS SENSOR (No. 1490)

output coding  
when this is:



1 =  $V_{CC}$

2 = Ground

3 = Signal

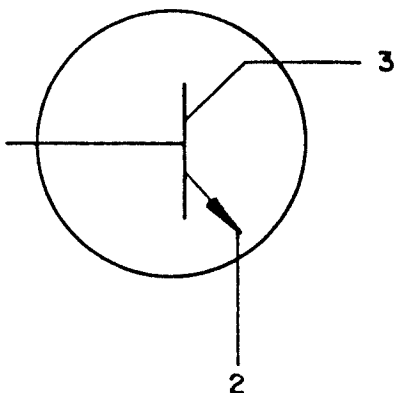
$V_{CC}$  = 5 to 20 Volts;  
8 to 13 recommended.

Output will sink  
25 mls @ 12 Volts.

Temperature Range:  
-20° C to +85° C.

Reverse polarity  
will damage Ic

Output is Open Collector



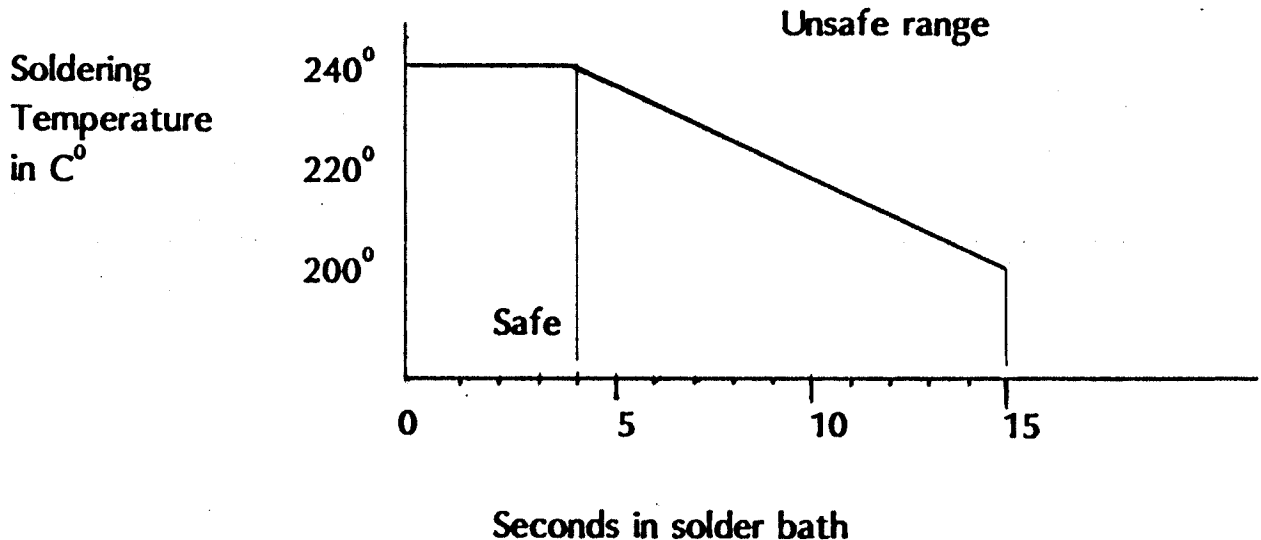
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## SOLDERING TEMPERATURE CAUTION

The junction temperature of the ICs in the sensors must be kept within the limits of the chart below. If the recommended temperatures are exceeded in the soldering operation, the ICs may exhibit erratic and unusual outputs. The changes are not reversible. The accuracy of the sensor is permanently destroyed.

Since the junction temperatures are essentially the same as the lead (pin) temperatures, it is strongly recommended that a heat sink be used between the base of the sensor and the point of soldering the leads or pins.



Hand soldering requires particular care for most hand soldering equipment is not accurately temperature controlled.