

PIN FUNCTIONS

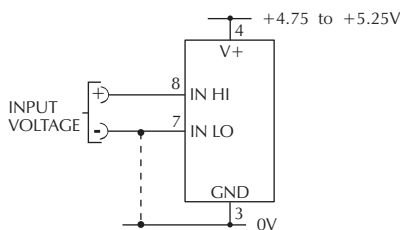
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|------------|--|
| 1. +SEG |] Use to indicate positive polarity-see "VARIOUS OPERATING MODES" for details. |
| 2. POL | |
| 3. GND | Negative power supply connection (0V). |
| 4. V+ | Positive power supply connection (+5V). |
| 5. VNEG | Output from negative rail generator (-5V nom). This is an inversion of V+. |
| 6. TEST | When taken to V+ all segments, except decimal points, should light i.e. "1888". |
| 7. IN LO | Negative measuring input.] Analogue inputs must be no closer than 1.5V to the positive or negative supply. |
| 8. IN HI | Positive measuring input.] The negative supply is generated internally and mirrors the positive supply voltage. |
| 9. COM | Ground for analogue section of the A/D converter, it is actively held at 3.05V below V+ and must not be allowed to sink excessive current (>100µA) by, for instance, connecting to a higher voltage. |
| 10. NC | Do not connect. |
| 11. REF LO | Negative input for reference voltage. (Connected via Link 3 to COM.) |
| 12. REF HI | Positive input for reference voltage. (Connected via Link 1 to internal reference.) |
| 13. DP COM | Connect to Pins 14, 15 or 16 to illuminate the required decimal point, alternatively use the on-board solder links DP1, 2 or 3. |
| 14. DP1 | Connect to Pin 13 to display DP1 (199.9). |
| 15. DP2 | Connect to Pin 13 to display DP2 (19.99). |
| 16. DP3 | Connect to Pin 13 to display DP3 (1.999). |

SOLDER LINKS

- | | | |
|----------|------------------|--|
| 1. | Normally closed. | Open this link to disable the internal reference. Then apply an external reference to REF HI (pin 12). |
| 2. | Normally open. | Close this link to connect IN LO (pin 7) to COM (pin 9). |
| 3. | Normally closed. | Open this link to disconnect COM (pin 9) from REF LO (pin 11). |
| 7. | Normally open. | Close this link connect IN LO (pin 7) to GND (pin 3). |
| 10. | Normally closed. | Open this link when fitting scaling resistor Ra. |
| DP1-2-3. | Normally open. | Close one of these links to display decimal points DP1 (199.9), DP2 (19.99) or DP3 (1.999) respectively. |
| POL. | Normally closed. | Open this link to disable the polarity sign. See Pin Functions 1 and 2 above. |

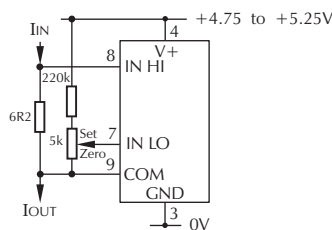
VARIOUS OPERATING MODES

ON-BOARD SOLDER LINKS: In order to quickly and easily change operating modes for different applications the meter has several on-board solder links. They are designed to be easily opened (cut) or shorted (soldered). Do not connect more than one meter to the same power supply if the meters cannot use the same signal ground. Taking any input beyond the power supply rails will damage the meter.



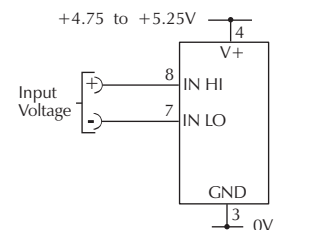
Check solder link 2 is OPEN.

Operation with input referenced to panel meter supply (Single ended mode). Preferably link IN LO to GND at signal source (to reduce loop noise), otherwise make link 7.



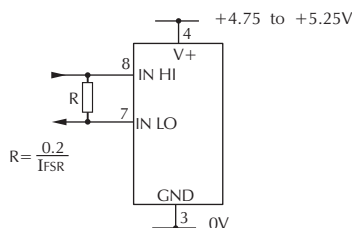
Check solder link 2 is OPEN.

Measuring 4-20mA to read 0-999 (supply MUST be isolated).



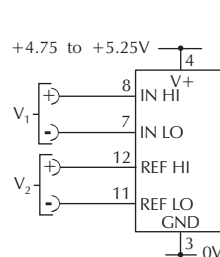
Check solder link 2 is SHORTED.

Operation with input floating with respect to power supply.



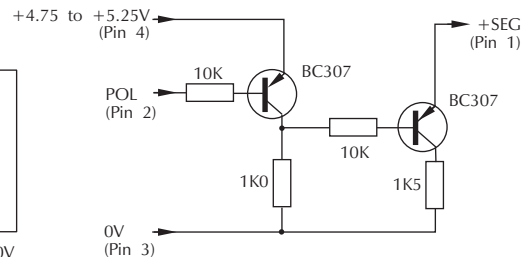
Check solder links 2 & 3 are SHORTED.

Measuring current. Supply MUST be isolated.



Check solder links 1 & 3 are OPEN.

Measuring the ratio of two voltages. Reading = $1000 V_1/V_2$
 $50mV < V_2 < 200mV$
 $V_1 < 2V_2$.



The above circuit can be used to indicate both positive and negative polarity, by illuminating either the + or - segment on the meter.