

USB programmable! Driver & manual at  
[www.defineinstruments.com/tmsetup](http://www.defineinstruments.com/tmsetup)



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## TM-2HL Common Specifications

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**Configuration** 2-wire 4~20mA (loop powered)

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**Power supply** 9.5-36V DC

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**Supply voltage sensitivity**  $< \pm 0.005\%/V$  FSO

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**Output load resistance** 700 $\Omega$  at 24V DC (50 $\Omega/V$  above 9.5V DC)

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**Maximum output current** Limited to  $< 28\text{mA}$  (Emission & immunity)

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**EMC compliance** Emissions (EN 61326). Immunity (EN 61326). Safety (EN 61010-1).

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**Accurate to**  $< \pm 0.03\%$  FSO typical

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**Ambient drift**  $< \pm 0.003\%/^{\circ}\text{C}$  FSO typical

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**Noise immunity** 125dB CMRR average (2.0kV DC limit)

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**R.F. immunity**  $< 1\%$  effect FSO typical

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**Response time** 400msec typical (10–90% 300msec typical)

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**Operating temperature**  $-20$ – $+65^{\circ}\text{C}$

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**Storage temperature**  $-20$ – $+100^{\circ}\text{C}$

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**Operating humidity** 5–85%RH max (non-condensing)

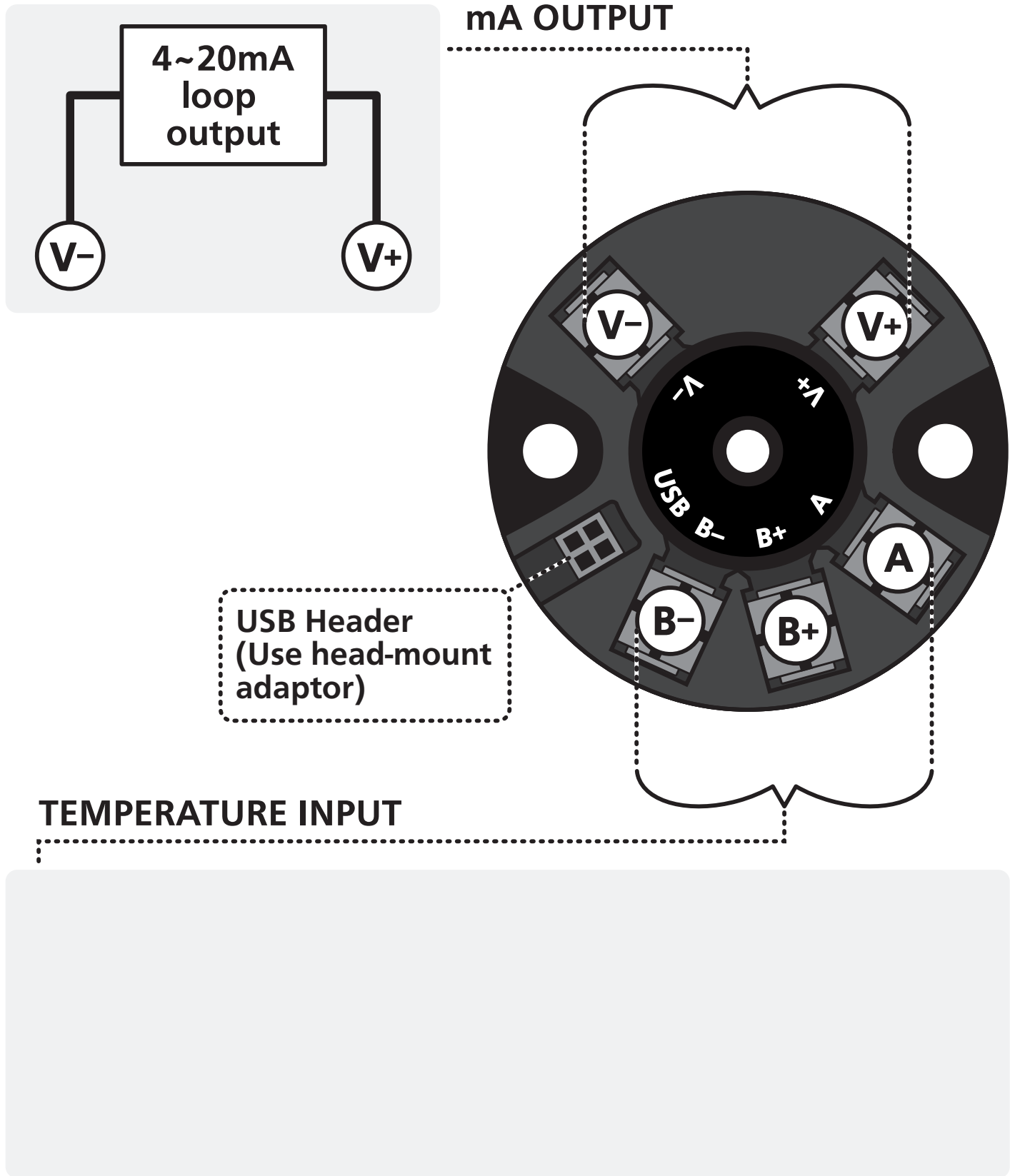
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**Casing** Head mount - 44 x 44 x 23mm (H x W x D)

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# Wiring



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## Thermocouple Input Specifications

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**Thermocouple types** B, E, J, K, N, R, S, T

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**USB programmable zero** 0–±99% of the span

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**Input impedance** 1MΩ min

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**Thermocouple lead resistance** 100Ω max

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**Cold junction comp.** -20–+90°C

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**Accuracy** E, J, K, N, T: < ±2°C. B, R, S: < ±3°C.

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**Temperature drift** E, J, K, N, T: < ±0.05°C. B, R, S: < ±0.2°C.

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**Sensor break output drive** Function high upscale/low downscale

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**CJC error** < ±1°C

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## RTD Input Specifications

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**RTD input** Pt100 or Pt1000 DIN 3-wire type (2-wire can be used with offset calibration)

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**Sensor current** 0.15mA nominal

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**Lead wire resistance** Pt100: 10Ω/wire max. Pt1000: 5Ω/wire max. 0.02% FSO offset error per Ω of lead resistance.

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**Accuracy** ≤ 0.3°C

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**USB programmable zero** 0–±99% of the span

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**USB programmable span** -200–+850°C

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**Sensor break output drive** Function high upscale/low downscale

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**Linearity (Pt100)** 0.02% FSO for span inputs ≤200°C. 0.1% FSO for span inputs ≤850°C

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**Linearity (Pt1000)** 0.02% FSO for span inputs ≤200°C. 0.2% FSO for span inputs ≤520°C

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