TM-2DLI
Universal Transmitter

Easy programming using Define ToolBox:
defineinstruments.com/toolbox

E2180

TM-2DLI Common Specifications

Configuration 2-wire 4–20mA (loop pwr)

Power supply 10.5–36V DC

Supply voltage sensitivity < ±0.005%/V FSO

Accurate to <±0.03% FSO typical

Ambient drift <±0.003%/°C FSO typical

Output load resistance 650Ω at 24V DC (50Ω/V above 10.5V DC)

Maximum output current Limited to <28mA (Emission & immunity)

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

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

R.F. immunity <1% effect FSO typical

Isolation test voltages between input/output: 3750V AC for 1min

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

Operating temperature -20 to 85°C (-4 to 185°F)

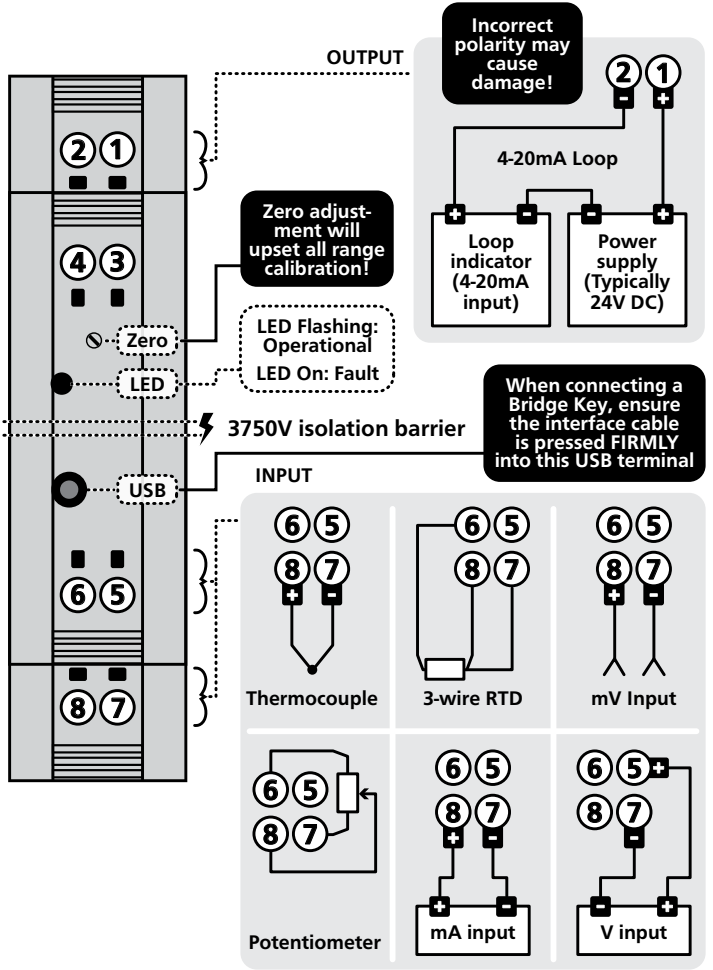
Storage temperature -20 to 85°C (-4 to 185°F)

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

Mounting 35mm symmetrical DIN rail

Dimensions (H x W x D) 79 x 20 x 68mm (3.11 x 0.79 x 2.68")

Wiring


OUTPUT
Incorrect polarity may cause damage!
2 1
4-20mA Loop
Loop indicator (4-20mA input)
Power supply (Typically 24V DC)
Zero adjust-ment will upset all range calibration!
4 3
Zero
LED Flashing: Operational
LED On: Fault
LED
3750V isolation barrier
When connecting a Bridge Key, ensure the interface cable is pressed FIRMLY into this USB terminal
USB
INPUT
6 5
8 7
Thermocouple
3-wire RTD
mV Input
Potentiometer
mA input
V input

Voltage Input Specifications

USB programmable zero 0–±99% of the span

USB programmable span 100mV to ±10V DC (bipolar)

Input resistance 300kΩ min

Maximum over-range 60V DC continuous

Linearity and repeatability <±0.02% FSO typical

Current Input Specifications

USB programmable zero 0–±99% of the span

Field programmable span 1µA–24mA DC

Input resistance 10Ω

Maximum over-range 50mA DC continuous

Linearity and repeatability <±0.02% FSO typical

Thermocouple Input Specifications

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

USB programmable zero 0–±99% of the span

Field programmable span Refer to ordering information for min/max ranges for each type

Input impedance 1MΩ min

Thermocouple lead resistance 100Ω max

Cold junction comp. -20 to 90°C (-4 to 194°F)

Accuracy E, J, K, N, T: < ±1°C. B, R, S: < ±2°C.

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

Sensor break output drive Function high upscale/low downscale

CJC error < ±1°C

RTD Input Specifications

RTD input PT100 or PT1000 DIN 3-wire type (2-wire can be used with offset calibration)

Sensor current 0.15mA nominal

Lead wire resistance PT100: 10Ω/wire max. PT1000: 5Ω/wire max. 0.02% FSO offset error per Ω of lead resistance.

USB programmable zero 0–±99% of the span

USB programmable span -200 to 850°C (-328 to 1562°F)

Sensor break output drive Function high upscale/low downscale

Linearity (PT100) 0.02% FSO for span inputs ≤200°C (392°F)
0.1% FSO for span inputs ≤850°C (1562°F)

Linearity (PT1000) 0.02% FSO for span inputs ≤200°C (392°F)
0.2% FSO for span inputs ≤520°C (968°F)

Other available RTD types JIS, PT100/1000, PT392, CN10

Potentiometer Input Specifications

Potentiometer input 3-wire potentiometer

Excitation voltage 1.2V DC

Potentiometer resistance 0–2KΩ low pot, 0–1MΩ high pot

Field programmable zero 0–90% of the span

Field programmable span 0.1–100%

Linearity and repeatability <±0.02% FSO typical

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