TM-4DPI
Universal Transmitter

USB programmable! Free software at defineinstruments.com/toolbox

E2180

TM-4DPI Common Specifications

Configuration 4-wire

Voltage output 0–10V DC or ±10V DC

Current output 4–20mA, 0–20mA, 20–4mA or 20–0mA. 20mA max output drive (650Ω max load at 13V DC).

Power supply 22–300V DC or 85–265V AC

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

Accurate to <±0.03% FSO typical

Ambient drift <±0.003%/°C FSO typical

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

R.F. immunity <1% effect FSO typical

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

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

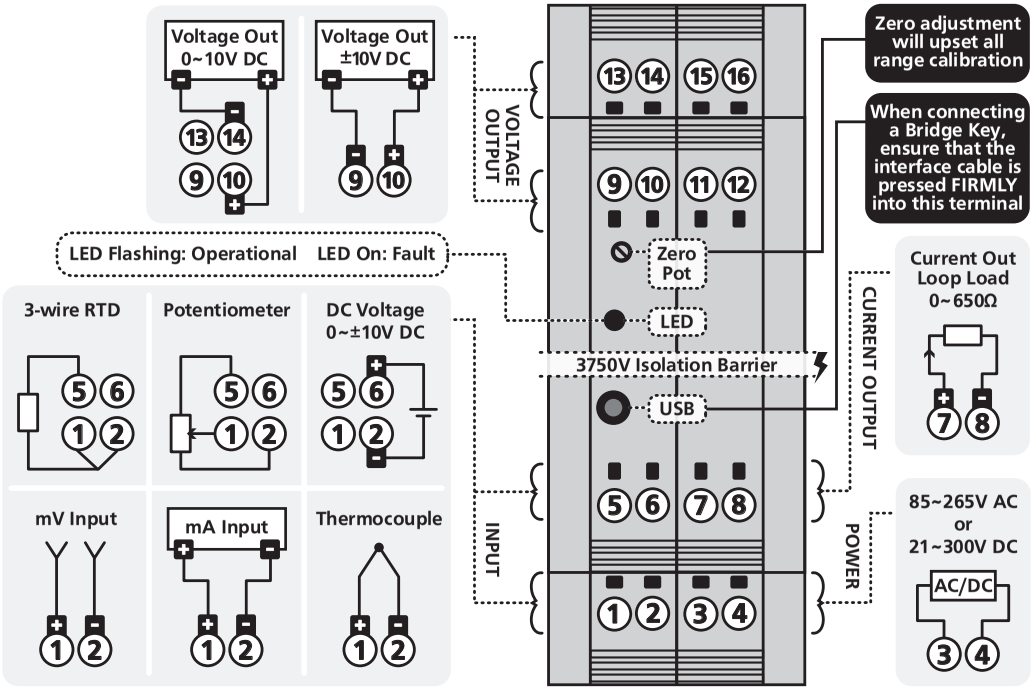
Storage temperature -20 to 100°C (-4 to 212°F)

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

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

Mounting 35mm symmetrical DIN rail

Dimensions (H x W x D) 79 x 30 x 68mm (3.11 x 1.18 x 2.68")


Voltage Out
0~10V DC
Voltage Out
±10V DC
VOLTAGE OUTPUT
Zero adjustment will upset all range calibration
When connecting a Bridge Key, ensure that the interface cable is pressed FIRMLY into this terminal
LED Flashing: Operational
LED On: Fault
Zero Pot
LED
3750V Isolation Barrier
USB
Current Out
Loop Load
0~650Ω
CURRENT OUTPUT
3-wire RTD
Potentiometer
DC Voltage
0~±10V DC
mV Input
mA Input
Thermocouple
INPUT
POWER
85~265V AC
or
21~300V DC
AC/DC

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

Define Instruments

New Zealand (Head Office) +64 (9) 835 1550 defineinstruments.com

