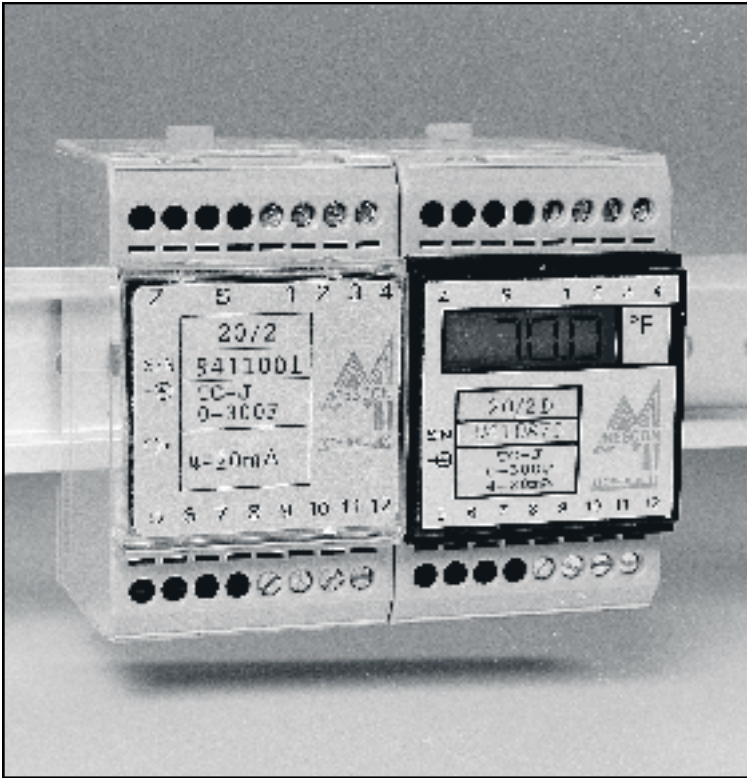


Thermocouple 2-Wire Transmitters

Precision, Isolated, Universal

Model 20/2, (L)



The model 20/2 is a precision, loop powered 2-wire transmitter with galvanic isolation between its input and the current-loop output signal. It includes the necessary circuitry for amplification and processing of signals from Thermocouple sensors. The input circuit can accept all types of Thermocouples and provides the ice point reference compensation. Model 20/2L also provides input linearization to correct for the inherent Thermocouple non-linearity. An optional LCD indicator is available to indicate actual temperature in °C or °F.

The 20/2 can be easily ranged without requiring special tools or board modifications. The transmitter is a member of Mescon's family of advanced Universal Input transmitters which can be easily reconfigured to accept other popular inputs such as RTD, DC mV/mA/Volts, and Potentiometers.

A TEST terminal provides a 40-200 mV signal proportional to the 4-20mA output. Applying a DVM to the TEST terminal allows monitoring and verification of the output without interrupting or disconnecting the current loop.

FEATURES:

- 2-wire transmitter system
- All known thermocouples
- Eliminates ground loop errors
- User selectable T/C type
- User rangeable
- Over 1000 Volts Isolation
- Wide ranging ZERO and SPAN
- Output TEST terminals
- DIN rail mounting

AVAILABLE OPTIONS:

- 3-1/2 digit backlit LCD indicator for temperature display (model 20/2L only)
- NEMA 4X or NEMA 7 enclosure
- Input linearization



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Thermocouple 2-Wire Transmitters

Precision, Isolated, Universal

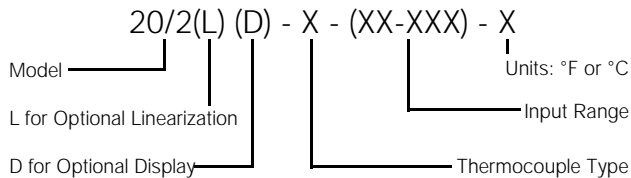
Model 20/2, (L)

SPECIFICATIONS:

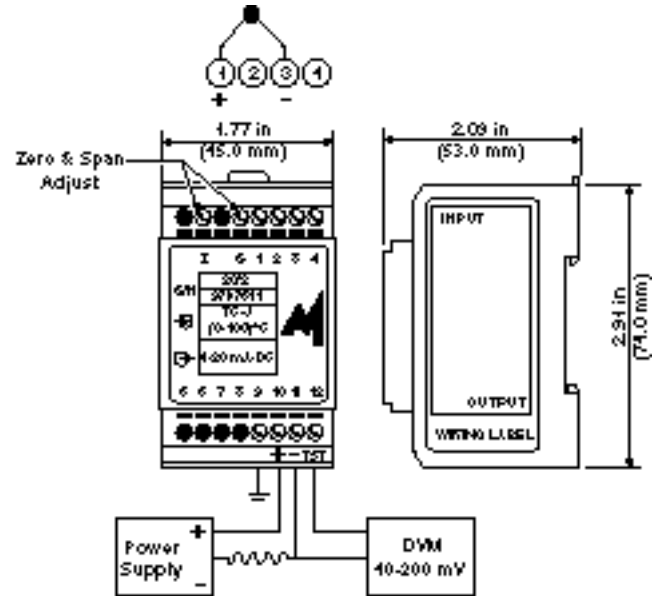
Input	All known Thermocouple types
Input Span	5 mV min. (10 mV for rated accuracy)
Burnout detection.....	Upscale, Standard; Downscale Optional
Input Impedance.....	10M on all ranges
Output Span	4-20mA, 2-wire, limiting @ <28 mA
Reference Junction	1°C Accuracy for 0-50°C Ambient
Linearity 20/2.....	Better than 0.04% referred to mV input
Linearity 20/2L.....	Better than ±0.25% (BSLF) referred to input temperatures (for most ranges)
Temperature stability.....	Better than ±0.02% of span/°F (10mV input)
Isolation	>1000 VDC or peak AC
Maximum Load	$R_{max} = (V_{supply} - 10V) \div 20mA$
C.M.R.R.	>120 db, DC to 60 KHz
Power supply range	10 - 50 VDC polarity protected
Supply Voltage Affect.....	Negligible
Output Ripple.....	<0.01% or span to 5KHz
Adjustments	> ±25% for both ZERO and SPAN
Operating Temp.....	-20°C to 70°C, (0°F to 160°F)
Humidity	0-95%RH, non-condensing
Mounting.....	DIN rail (35mm) or panel (with adapter)

All specifications are subject to change without notice.

ORDERING INFORMATION



Please request our ordering and calibration diskette describing the rest of Mescon's products.



Wiring Instructions:

1. Connect the positive thermocouple lead to terminal 1.
2. Connect the negative thermocouple lead to terminal 3.
3. Connect the positive supply lead to terminal 10 (+V).
4. Connect the negative supply lead to terminal 11 (-V).
5. Connect the system ground to terminal 9.
6. Turn the power on and observe input/output parameters

Note: To monitor the output without breaking the current loop, connect a digital voltmeter between terminal 12 (TST) and terminal 11 (-V). An internal 10.0 ohm resistor in series with the current loop provides a 40-200mV signal for the 4-20mA current output.

Calibration and Adjustments:

It is assumed that the unit undergoing calibration has been properly ranged at the factory or workshop.

1. Connect an thermocouple simulator to the 20/2 input terminals using specific thermocouple wires. Observe for proper polarity.
2. Complete the output loop using a power supply and a precision digital current indicator. Turn the power on. **For optimum performance, allow 15 minutes for temperature gradients to equalize.**
3. Set the input to the desired minimum signal and adjust the ZERO pot until the current indicator reads 4.00mA.
4. Set the input to the desired maximum signal and adjust the SPAN pot until the current indicator reads 20.00mA.
5. Repeat steps 3 & 4 until no further adjustment is needed.

Note: If the unit can not be calibrated to the desired range, it should be returned to the workshop for proper ranging.



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