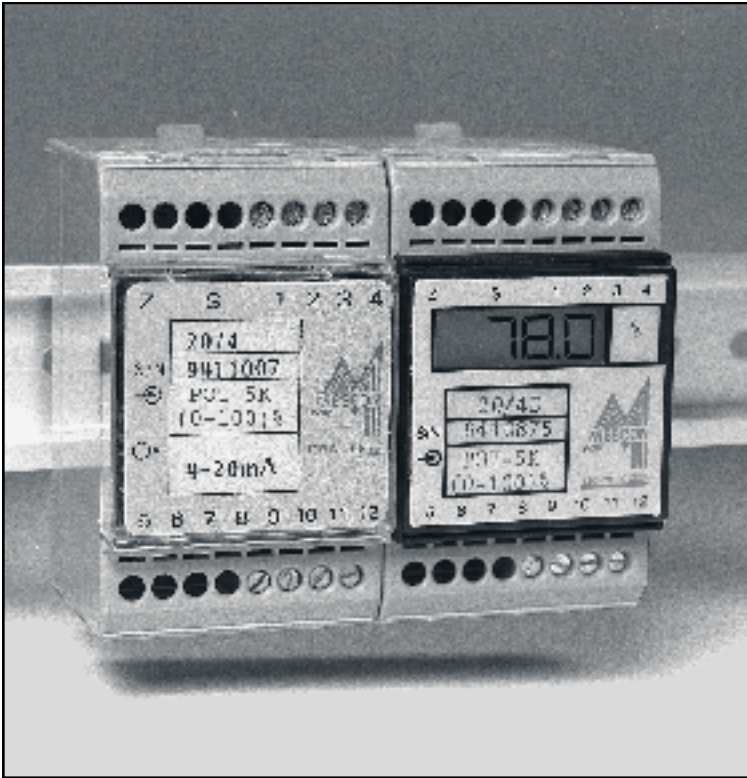


Potentiometric 2-Wire Transmitters

Precision, Isolated, Universal

Model 20/4, (L)



The model 20/4 is a precision, loop powered 2-wire transmitter with galvanic isolation between its input and the current-loop output signal. The 20/4 provides the necessary circuitry for amplification and processing of signals from Potentiometers and slide wires. Model 20/4L also provides input linearization to correct for non-linearity of sensors and specific applications. An optional LCD indicator is available on the 20/4 to indicate the output in Engineering Units.

The 20/4 can be easily ranged without requiring special tools or board modifications. The transmitter is a member of Mescon's family of advanced Universal Input 2-wire transmitters which can be easily reconfigured to accept other popular input types such as RTD, Thermocouple, and DC mV/mA/Volts.

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
- User selectable range
- Eliminates ground loop errors
- Over 1000 Volts Isolation
- Wide ranging ZERO and SPAN
- DIN rail mounting
- Output TEST terminals

AVAILABLE OPTIONS:

- 3-1/2 digit backlit LCD indicator
- Non-linear input (20/4L)
- Higher I/O isolation
- NEMA 4X or NEMA 7 enclosure



MESCON
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Potentiometric 2-Wire Transmitters

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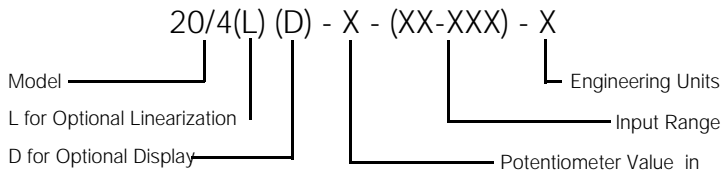
Model 20/4, (L)

SPECIFICATIONS:

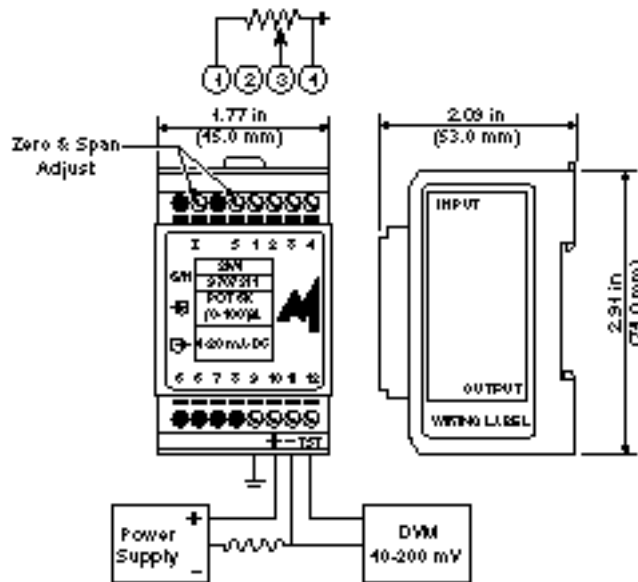
Input	3-wire Potentiometer / Slidewire
Output	4-20mA, 2-wire, limiting @ <28mA
Resistance (end-to-end)	100 Min. 20K Max.
Minimum Span	10% of end-to-end resistance
Sensor Excitation	Nominal 100mV
Linearity (BSLF)	Better than $\pm 0.05\%$ referred to the potentiometer wiper position
Calibration Accuracy	$\pm 0.1\%$ of span for linear input (incl. linearity) $\pm 0.25\%$ of span for 20/4L (most inputs)
Isolation	>1000 VDC or peak AC
Maximum Load	$R_{max} = (V_{supply} - 10V) \div 20mA$
C.M.R.R.	>120 db, DC to 60 Hz
Output Ripple	<0.01% of span (to 5KHz)
Adjustments	> $\pm 25\%$ for both ZERO and SPAN
Power supply range	10 - 50 VDC reverse polarity protected
Operating Temp	-20°C to 70°C, (0°F to 160°F)
Temperature Stability	< $\pm 0.02\%$ of span/°F (0-100% range)
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 potentiometer's high end lead to terminal 1.
2. Connect the potentiometer's low end lead to terminal 4.
3. Connect the potentiometer's wiper lead to terminal 3.
4. Connect the positive supply lead to terminal 10 (+V).
5. Connect the negative supply lead to terminal 11 (-V).
6. Connect the system ground to terminal 9.
7. 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 a precision digital potentiometer (a multi-turn potentiometer with digital display) of proper value to terminals 1, 3, & 4
2. Complete the output loop using a power supply and a precision digital current indicator.
3. Set the wiper to the desired minimum position and adjust the ZERO pot until the current indicator reads 4.00mA.
4. Set the wiper to the desired maximum position and adjust the SPAN pot until the current indicator reads 20.00mA.
5. Repeat steps 3 & 4 until no further adjustment is needed.

Note: It is also possible to perform ZERO and SPAN calibration using one or more resistors connected in series between terminals 2 and 4. Change wiper position by attaching the lead from terminal 3 to the proper resistor leads. 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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