

The Series 500 Analog Transmitter is a 4-20mA current converter. It is normally used as a loop-powered device for use with all Badger Meter non-magnetic flow sensors. The transmitter is equipped with an on-board calibration frequency source. This source allows the unit to be field calibrated. It has two frequency span ranges (high and low) to provide for high resolution of the 4-20mA signal to a specific flow range.

APPLICATIONS

The Series 500 is intended for use with any device that requires a 4-20mA input signal, to log or display flow rate; or as the input to a flow based process control system, PLC or CPU.

Typical examples of the kinds of systems and equipment requiring a flow signal proportional to 4-20mA are:

- Chemical feed systems
- Batch control systems
- Mixing/blending systems
- Data logger systems
- SCADA & recorder systems
- Energy management systems
- BTU measuring systems
- Irrigation control systems
- Heat exchanger systems

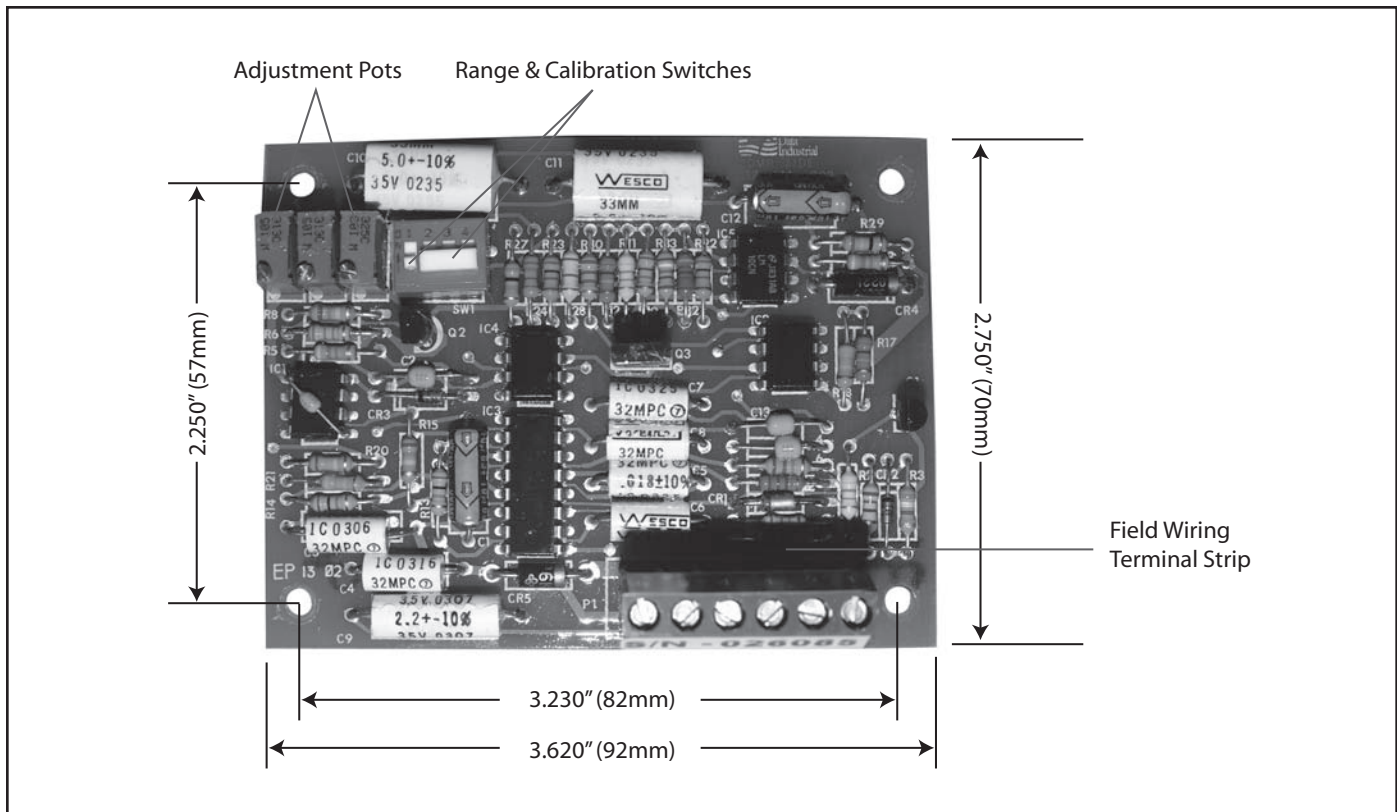


Series 500 Analog Transmitter

PRODUCT FEATURES

1. **User Adjustable Scale** – The user can select the resolution of the 4-20mA signal from the ranges of the various pipe size configurations.
2. **Maximum Signal Resolution** – To maximize the resolution of the 4-20mA signal the 4mA value can be set to values other than Zero. The 20mA value can also be adjusted to reflect the minimum or maximum range of flow required to interface to other equipment with the analog signal.
3. **Power Supply Options** – The Series 500 is normally loop-powered, drawing the necessary power from the loop itself. If there is no loop power available, an independent power supply is available from Badger Meter.
4. **Mounting Options** – The Series 500 is enclosed in a NEMA 4X, waterproof enclosure. The Series 500 is available as an open chassis circuit board for mounting inside another panel or enclosure.





SPECIFICATIONS

Operating Range:

4-20mA loop output, 0-110Hz square-wave frequency input

Load Voltage:

10V minimum, 35V maximum

Linearity:

Better than 1%

Electrical:

Meets ISA requirements, classes L, H, and U
Non-isolated

Load Resistance:

Max. 650Ω @ 23 volts

Power Requirements:

4-20mA loop voltage or 10 VDC min. 35VDC max

Device Output Ripple:

Less than 0.25% of full scale for a fully stable sensor input

Output Response Time:

Six seconds (typ.), 10-90% step response

Operating Temperature Range Series 500/550:

-20°F to +150°F (-29°C to +65°C)

Series 510:

-32°F to +122°F (0°C to +50°C)

Storage Temperature Range Series 500/550:

-40°F to +185°F (-40°C to +85°C)

Series 510:

-14°F to +140°F (-10°C to +60°C)

Conformal Coating:

Circuits are coated with a clear colorless coating meeting Milspec Mil-146058C, type AR, for humidity, moisture and fungus resistance

Enclosure:

Polycarbonate with tongue/groove neoprene sealed cover
Meets NEMA 1, 2, 3, 4, 4X, 5, 12, and 13 specifications

ORDERING INFORMATION:

Model 500-10

Transmitter in NEMA-4 housing

Model 510-10

Transmitter in NEMA-4 housing with LCD display

Model 550-10

Unhoused circuit board only

Model A-501

Plug-in power supply
120VAC/24VDC

Model A-502

Barrier strip power supply
120VAC/24VDC



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