

Model Series L200
2-Wire Ultrasonic Level
Transmitter



BadgerMeter

TECHNICAL BRIEF



FEATURES

- Compact Design
- Non Contact Intelligent Ultrasonic
- Automatic Temperature Compensation
- Simple Two Step Setup
- Two Wire 4-20mA Loop Powered Operation
- Intrinsically Safe
- Eex ia iiC T6 Certification

DESCRIPTION

The L200 Series is a 2 wire, ultrasonic level instrument designed to measure liquid, or solid levels in closed or open tanks up to a 32 foot (10 M) range. For simple installation it can be suspended from its cable, hung from 1/2" NPS conduit, or screwed into a 2" NPS (BSP available) fitting. The unit is a two wire 4-20mA loop powered transmitter which simplifies installation.

Normal setup is done using a magnetic key for security. Simply use a target or the actual tank levels and select the required 4 or 20 mA output by holding the key over the Zero or Span positions on the transmitter. Two LED indicators are activated to assist in the set up and operation.

Three models are available: L206 (20' range), L208 (26' range) and L210 (32' range).

The L200 Series level transmitters are fully rated to operate in harsh environments where the atmospheres are corrosive, or hazardous. Employing a Tefzel™ nose, the unit can be threaded into a 2" NPS opening and sealed. The container pressure can be as high as 14 psi above atmosphere, with temperatures from -4° F to 140° F.

OPERATION

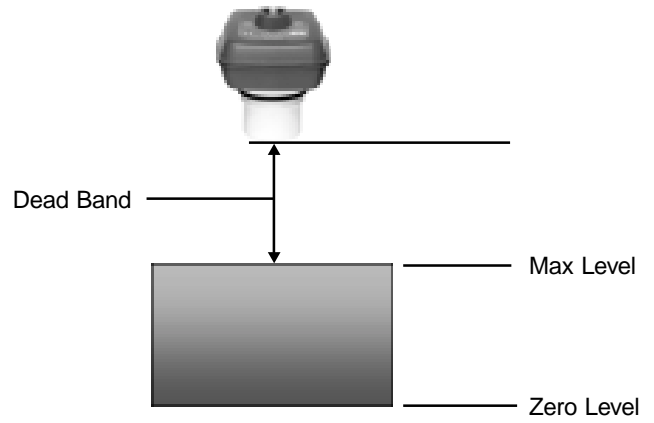
The L200 Series ultrasonic transducers are used for level measurement in open, or closed vessels. Short controlled ultrasonic pulses emanating from the unit are aimed at a reflective target surface. After filtering out the noise, the time taken for the reflective pulses to strike the transducer are converted to linear measurements and conveyed to the remote indicator/recorder as a current value.

TWO-WIRE OPERATION

The unit is powered from an external 24VDC power supply. The distance (level) is indicated as a 4-20 mA current in the loop. The unit can be set up for the 4-20 to be spanned directly or inversely proportional.

SPECIFICATIONS (ALL MODELS)

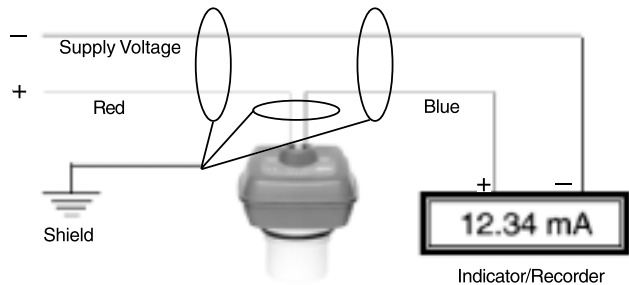
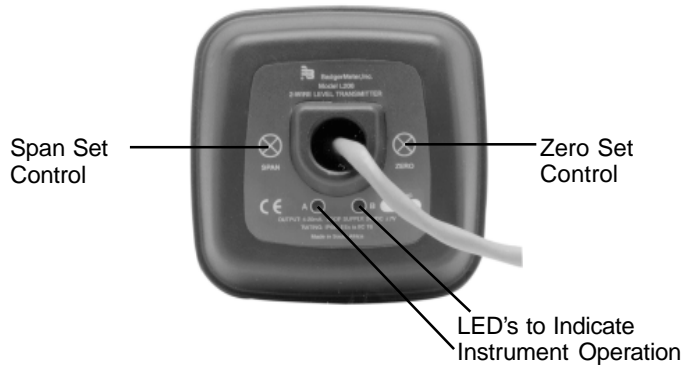
Current Output:	4-20 mA span directly or inversely proportional
Accuracy:	Better or equal to +/- 0.25% of maximum span
Resolution:	0.12 in (3 mm)
Point Setting:	By magnetic key, non-volatile storage
Fault Current:	22 mA
Loop Load:	$R_{max} = \frac{V_{supply} - 17}{22} k\Omega$
Storage Temperature:	-40° F (-40° C) to 176° F (80° C)
Operating Temperature:	-4° F (-20° C) to 140° F (60° C), please note that instrument has internal temperature compensation
Container Pressure:	28 psi (200 kPa) above atmospheric
Enclosure Rating:	IP68 submersible
Weight (approx.):	2.2 lbs (1 kg) including integral 16 ft. (5 m) cable
Dimensions:	Width: 4.1 in. (105 mm) Length: 4.1 in. (105 mm) Overall height: 4.3 in. (112 mm)
Housing Material:	UV resistant ABS
Mounting:	Suspended from cable or 1/2 in. NPT conduit, or mounted in 2" NPS flange
Supply Voltage:	17 V to 30 VDC (max.) 24 VDC typical operating voltage
Certifications:	Eex ia IIC T6 (Tamb=-4° F (-20°C) to 140 F (60°C) IA No: SABS S/S361 X U _i =28V I _i =93 P _i =0.65W L _i =4uH C _i =100nF IEC61326-1 / IEC801-3 / EN55011 Intrinsically Safe



SERIES L200

Dimensions: L x W X H
4.1 x 4.1 x 4.3 inches

Weight: Approx. 2 lbs with 16 foot cable



SPECIFICATIONS PER MODEL

	L206	L208	L210
Range:	10 in. (.25 m) to 20 ft. (6 m) in liquids at 77° F (25° C)	12 in. (0.3 m) to 26 ft. (8.00 m) in liquids at 77° F (25° C)	16 in. (0.4 m) to 32 ft. (10.00 m) in liquids at 77° F (25° C)
Beam Angle:	8° at -3 dB boundary	11° at -3 dB boundary	11° AT -3 dB boundary
Frequency:	55 kHz to 60 kHz	45 kHz to 50 kHz	45 kHz to 50 kHz
Nose Material:	Tefzel™	Tefzel™	PVC

Tefzel™ is a trademark of DuPont.



Please see our website at
www.badgermeter.com
for specific regions and contacts.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding bid obligation exists.



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