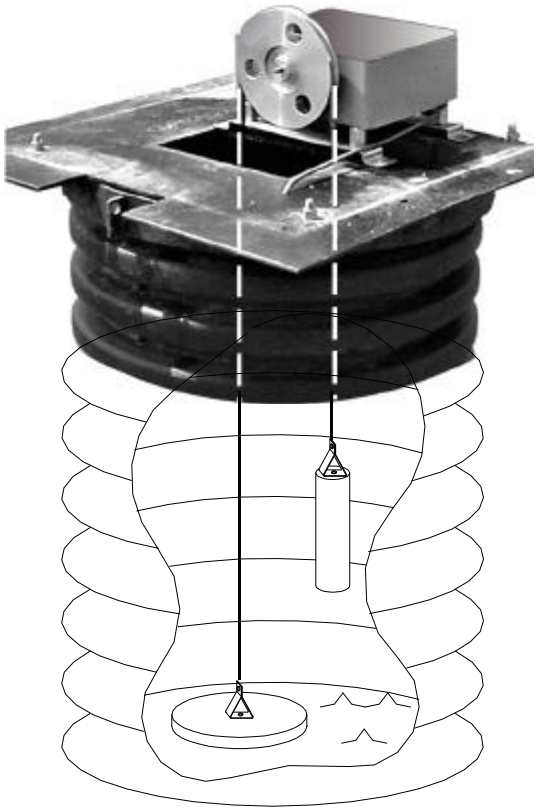
Sierra Control Systems, Inc.
Water Measurement and Control Systems

Product Data Sheet

Water Level Transducer WLT-704



Description

The WLT-704 Water Level Transducer is a precision instrument for remote monitoring of water surface levels. The WLT-704 uses a precision float-tape-counterweight mechanism to convert the water surface level into an electrical signal. The electrical signal measures the water level to the nearest 0.01 ft. The level measurement is transmitted as a 4 to 20 ma current, 0 to 1 ma current resistance value, or a voltage.

Features

- High Accuracy
- Wide Range of Levels
- Current or Voltage Output
- Local Digital Display option
- Low Power option
- Nema 4 Aluminum Housing

Standard Ranges:

Range	Resolution	Accuracy
0 to 2 ft	0.01 ft	+/- 0.01 ft
0 to 10 ft	0.01 ft	+/- 0.01 ft
0 to 20 ft	0.01 ft	+/- 0.015 ft
0 to 30 ft	0.01 ft	+/- 0.015 ft
0 to 40 ft	0.01 ft	+/- 0.020 ft

Extended Ranges:

Range	Resolution	Accuracy
0 to 100 ft	0.02 ft	+/- 0.10 ft
0 to 200 ft	0.05 ft	+/- 0.15 ft

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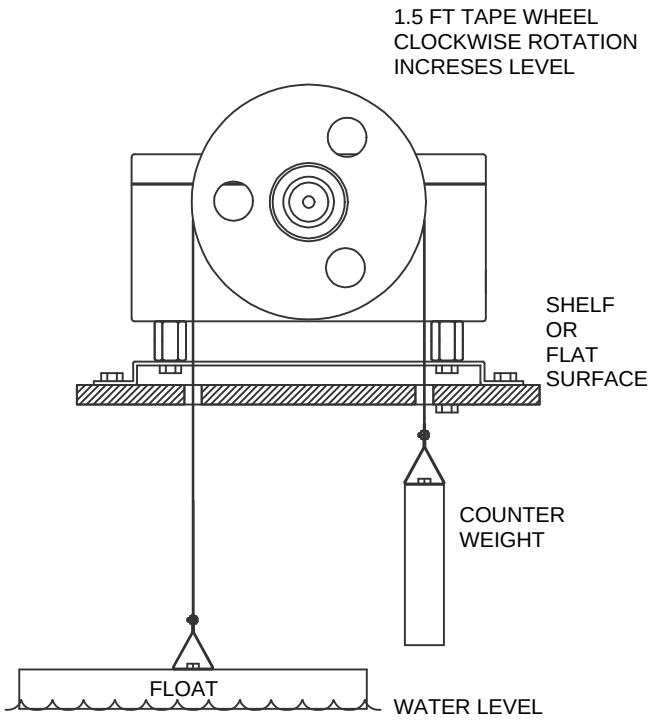
Other Features and Options

- The WLT-704 can be provided with a Digital Display of the water level. This display can be loop powered (4-20 ma applications) or it can be powered with and external supply.
- The output from the WLT-704 can be used as a controller input, such as the Series 900 Gate Controller. It can also be used to drive a recorder.
- The WLT-704 is designed in a cast aluminum housing that is NEMA-4 rated. This housing has an O-ring gasket to seal the cover. This cover can easily be removed to access the internal electronics by the removal of 4 screws.



Operation

The WLT-704 Water Level Transducer is designed for installation in a stilling well or similar structure. The transducer is to be mounted on a flat surface directly over the water. It must be level and securely fastened to the surface with 1/4-20 bolts.

The transducer utilizes a float-tape-counter weight system and a precision tape wheel to produce an accurate rotational shaft input. The rotation of the input shaft is converted to an electrical signal with a precision potentiometer. This combination of components results in an accurate electronic measurement of the absolute elevation of the water level.

The float is made from a low density polyethylene which stays in a stationary position in the water. A stainless steel tape is physically connected to the float and a stainless steel counter weight to provide a constant tension on the tape. The tape is accurately punched each 0.500 ft with a small hole to fit into pins on the wheel, thus preventing any slippage. When the tape is draped over the wheel, a fixed mechanical linkage is developed between the water surface and the precision potentiometer. Therefore, the accuracy of the water surface measurement is extremely high. Errors in the float system and electronic measurement are less than 0.01 ft for most ranges.

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Specifications

Range	Resolution	Accuracy
0 to 2 ft	0.01 ft	+/- 0.01 ft
0 to 10 ft	0.01 ft	+/- 0.02 ft
0 to 20 ft	0.01 ft	+/- 0.025 ft
0 to 40 ft	0.01 ft	+/- 0.05 ft
0 to 100 ft	0.02 ft	+/- 0.20 ft
0 to 200 ft	0.05 ft	+/- 0.15 ft

Display: 0.00 to 1999

Output: 0 to 10 vdc (option V)
0 to 1 ma (option I)
4 to 20 ma (option I)
0 TO 5K ohm (option P)

Loop Power: 20 to 35 vdc

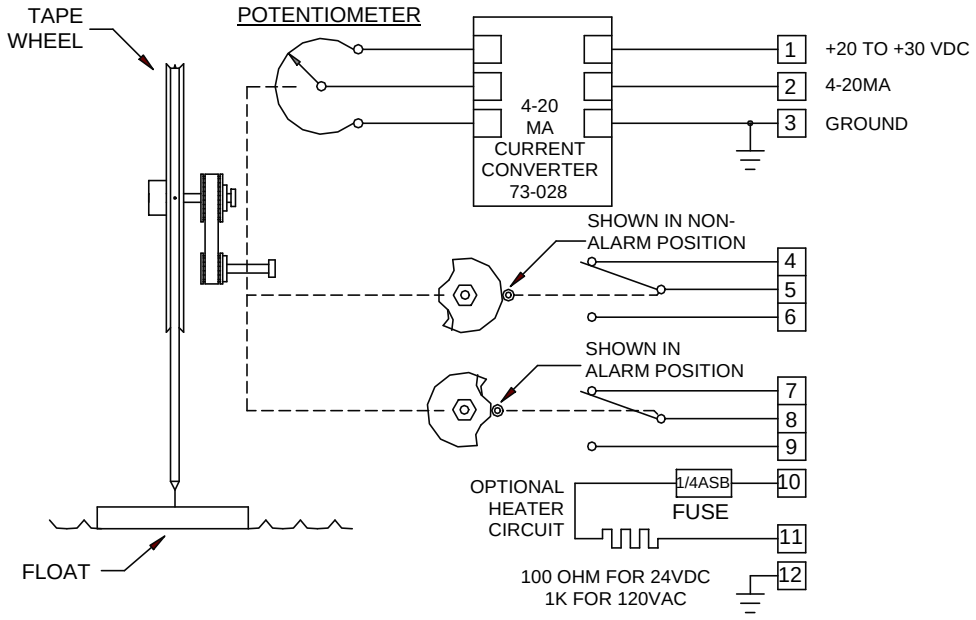
AC powered units: 120 vac 60 hz standard

Optional DC powered: 110 to 165 vdc
24 or 48 vdc

Housing: NEMA 4X
Aluminum
9”L X 9”W X 4”H

Overall size: 9.6”L x 9”W x 7”H

Tape Wheel size: 6” DIA X 0.5”W
1.500 ft Circumference
0.500 ft pin spacing
0.375” tape width
0.250” shaft diameter



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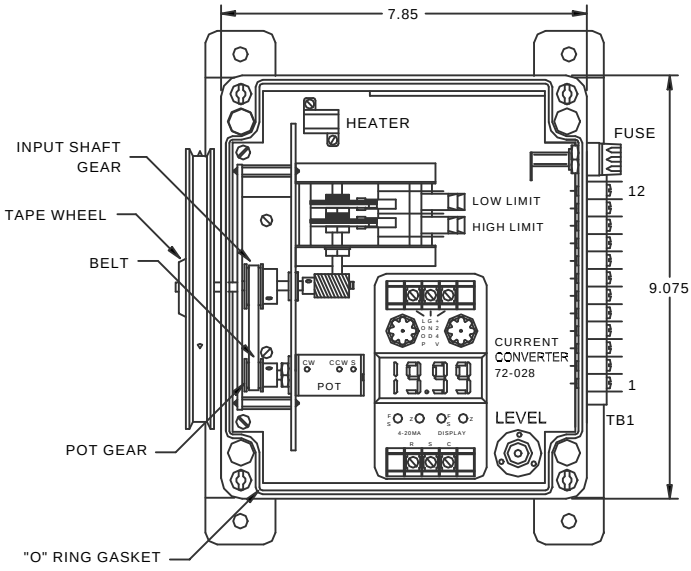
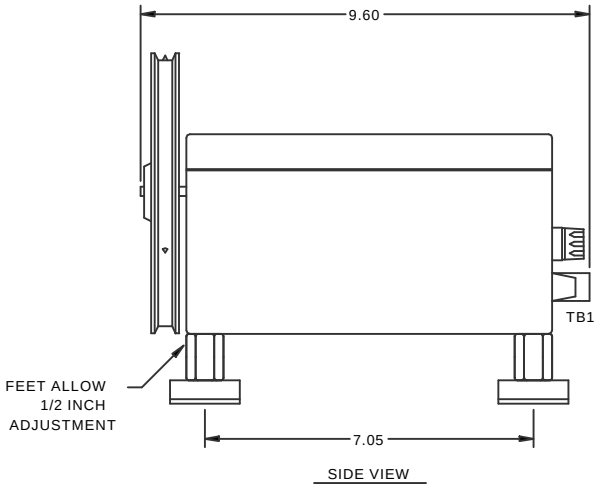


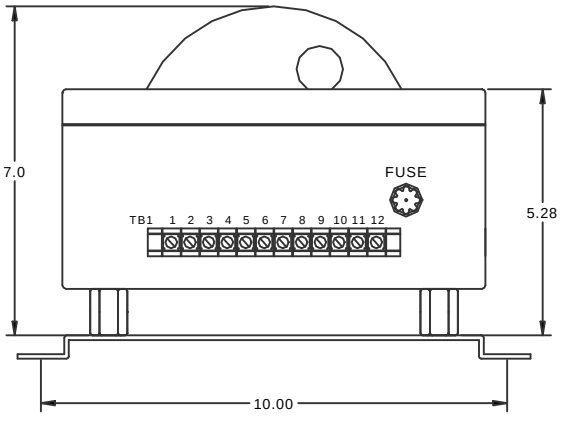
VERSION

A	J

FOR 4-20MA OUTPUT
W/DISPLAY, EXTERNAL POWER,
AND HIGH/LOW LIMIT SWITCHES



SIDE VIEW



REAR VIEW

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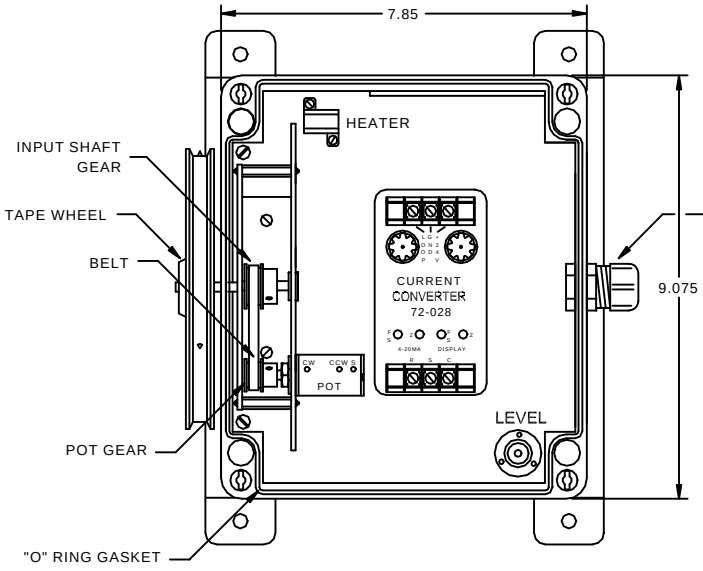
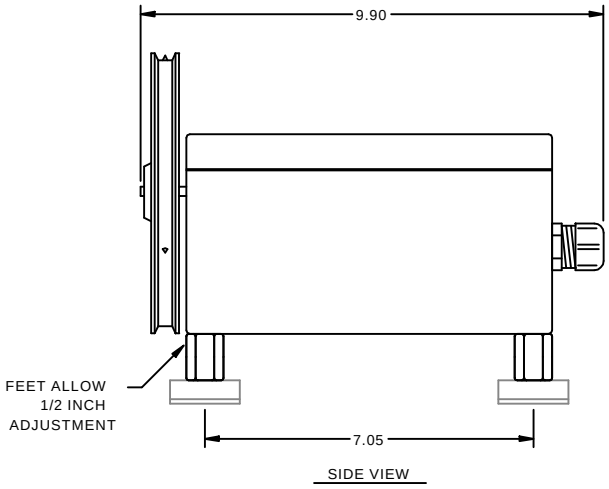


VERSION

A	M

FOR 4-20MA OUTPUT



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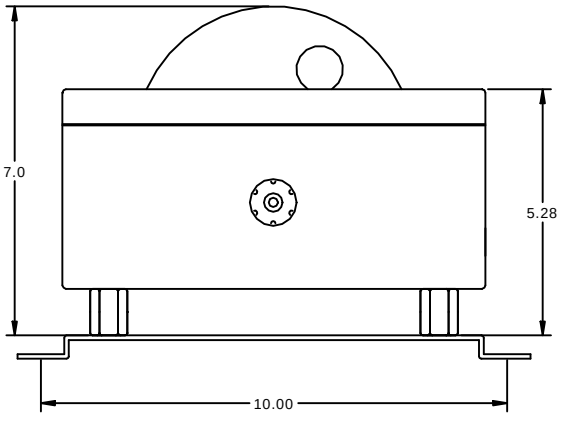

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