

## VL9 Encoded Remote Totalizer



### General

The VL9 is a battery powered remote totalizer that works with any meter with Sensus or Neptune Encoded output. This includes most Actaris 250 and 400 class gas meters as well as a variety of water meters. Encoder technology directly reads the position of the odometer wheels on the meter when interrogated. This technology does not rely on pulse output, so Encoded systems are not prone to the mismatched meter/remote totalizer readings that can sometimes arise with pulse based systems. The Remote totalizer is always the same as the Encoder index on the meter. It provides nearly error free reading.

### Materials / Construction

All electronics are sealed in a single piece lexan cover with a wall mount back plate.

### Operating Specifications / Tech Data

Operating Temp:	-22 to 176°F (-30 to 80°C)
Meter Reading	8 Digit Read
Meter ID	12 Digits
Power:	3V Non-replaceable Li
Battery Life:	5 Years
Reading Distance:	500 feet (using 22G cable)
Update Frequency:	Wakes up when "tapped"

For Sales & Service Contact:

41 Magnolia Avenue  
Cambridge MA 02138  
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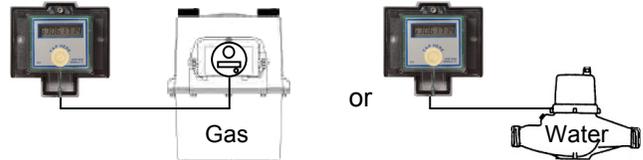
Doc. Ref: MPVL6\_Encoded\_Tot\_v2

5 Heritage Hill Rd.  
Norwalk, CT 06851  
Phone: (203) 845-0593  
Fax: (203) 846-3825

### Dimensions

4.6 wide x 4.3 high x 2" thick

### Installation & Operation Considerations



The unit is permanently sealed in a waterproof Lexan case. It can be installed inside or outside.

It has a wall mounting bracket with pre-drilled holes. (mounting HW provided)

Terminate cable under the cover using the connectors provided and terminate the red, green and black wires according to schematic below.

Never place the cable in a conduit with AC conductors.

Wire the totalizer to the encoder on the meter:

Totalizer	Sensus/Invensys	Neptune/SLB*
Red	<b>Red</b>	<b>Black</b>
Green	<b>Green</b>	<b>Red</b>
Black	<b>Black</b>	<b>Green</b>

\*does not work w/ AutoRead protocol

The unit will wake up when you strike the "TAP" switch with something hard like the handle of a screw driver. The percussion wakes the unit up and it will display the meter read, followed by the serial number.

The battery is designed to last a minimum of 5 years. When the battery dies, simply replace with a new totalizer. Because it reads encoded output, no reads are lost, the new totalizer will display the exact value on the meter. (Note: it does round down to nearest 5 places of the last moving odometer wheel)

### Options & Accessories

Data Logging Capability  
SW for Downloading Reads

Examples of readings:

**Neptune water meters with Pro-Read Register.**

It is best to have the water meter's register programmed to ENCODED or MIU output mode not AUTO DETECT mode. Registers in Auto Detect mode will sometimes experience data clashes that give erroneous readings.

The VL-9 does not display the "fixed zeros" or multipliers that are printed to the right of the turning odometer wheels. As such you need to add zeros accordingly. It is helpful to add a sticker as a reminder.

**Gallons Readout**

Meter Size & Type	Multiplier
5/8" to 1" T-10	x 10
1 1/2" T-10 to 4" Turbine	X100
6" to 12" Turbine	X1000

**Cubic Feet Readout**

Meter Size & Type	Multiplier
5/8" to 1" T-10	X1
1 1/2" T-10 to 4" Turbine	X10
6" to 12" Turbine	X100

Note: The VL-9 Rounds down to the nearest:

Meter Size & Type	CuFt	Gallons
5/8" to 1" T-10	5	50
1 1/2" T-10 to 4" Turbine	50	500
6" to 12" Turbine	500	5000



This is a Neptune 2" T-10 Register that reads in CuFt x 10 or 10 CuFt. Since the reading on this register is 10 Cuft, it would be rounded down to 0. If for example it read 34790 CuFt the VL-9 would read 3475 and you would need to add a zero to the reading for the multiplier.

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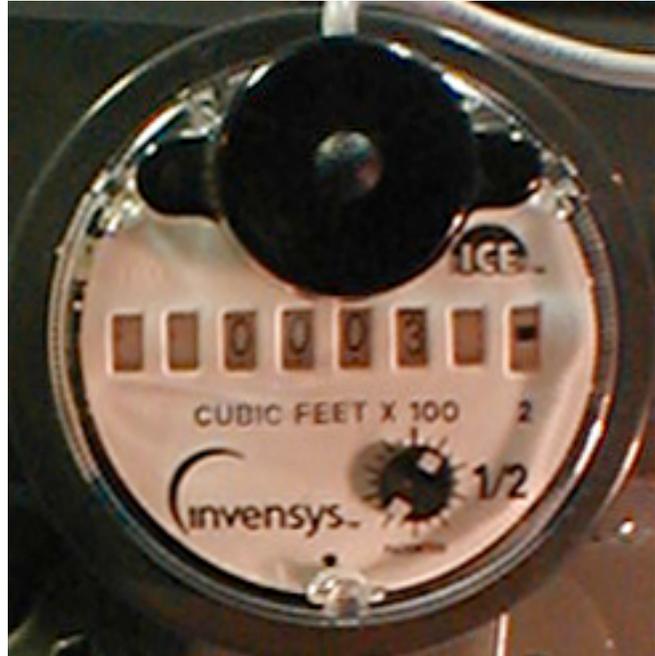
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**Actaris gas meter with Sensus ECI Encoder**

The ECI register on the meter only displays 4 digits. The reading is in Cubic Feet x100.

The VL-9 does not display the "fixed zeros" or multipliers that are printed to the right of the turning odometer wheels. As such you need to add zeros accordingly. It is helpful to add a sticker as a reminder.



This is a Itron (Sprague/Schlumberger/Actaris) Metris 250 gas meter with an encoded index. The index reads 3 x100 or 300 Cubic feet. The VL-9 would simply read 3, so you would need to add two zeros or put a sticker on the unit that says "x100 CuFt".

**Error Codes:**

VL-9 Reads:	Description of Problem
No Response	Meter is not wired or connected properly to VL9
Unknown Register	Verify the meter connected is in the supported meter types list
Framing Error	Check cable
Parity Error	Check Cable

**Supported Meters:**

Water: Sensus, Neptune (Pro-read), AMCO/Kent, Schlumberger, Badger ADE, Neptune Trident, Badger 25 Read-omatic  
 Gas: Any gas meter with Sensus ICE Protocol register