

## SPECIFICATIONS

Pressure Rating:	232psi
Temperature Range:	41° F - 266° F
PH Level Range:	7.0 - 9.5
Accuracy:	+ / - 2%
Register Options:	U.S. Gallons or Liters
Contact Closure Time:	50 milliseconds
Register:	NEMA 4
Body Material	Brass



06/20

### **CARLON METER, INC. • PRODUCT WARRANTY**

Carlon Meter, Inc. (hereinafter Carlon or "the company") warrants products of its manufacture to be free of defects in material or workmanship. Liability under this warranty extends for twelve (12) months from the date of purchase. Liability is limited to repair or replacement of any failed product or assembly proven to be defective in material or workmanship upon manufacturer's examination. Removal and installation costs are not included under this warranty. Manufacturer's liability shall never exceed selling price of the meter or assembly in question. Carlon disclaims all liability for damage its products caused as the result of improper installation, maintenance, use or attempts to operate products beyond their intended functionality, intentionally or otherwise. Carlon is not responsible for damages, injuries or expenses incurred through the use of its products. The above warranty is in lieu of all other warranties, either expressed or implied. No agent of the company is authorized to alter or otherwise revise this warranty.

For complete specs, visit our website: [www.carlonmeter.com](http://www.carlonmeter.com)

# Installation and Operating Instructions

## Ultrasonic Meter

4-20mA and DRY CONTACT OUTPUT



*Leaders in water measurement and control*

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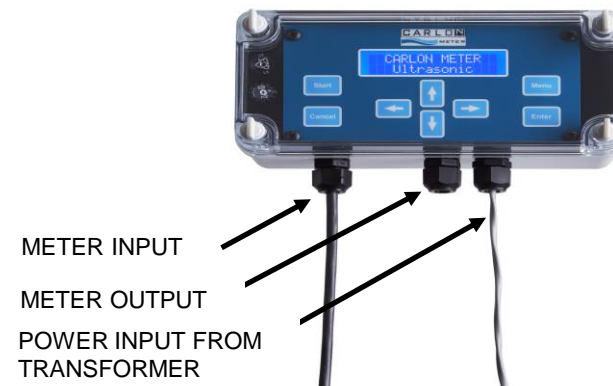
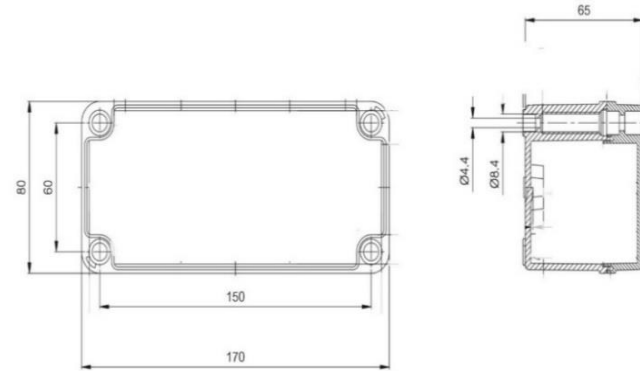
E-mail: [carlon@carlonmeter.com](mailto:carlon@carlonmeter.com)

Website: [www.carlonmeter.com](http://www.carlonmeter.com)

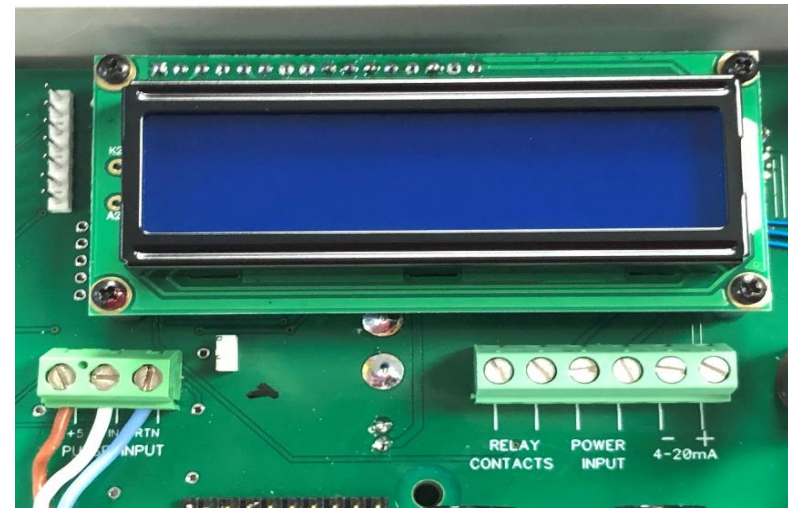
## INSTALLATIONS INSTRUCTIONS:

- 1 Flush the line thoroughly after plumbing changes to eliminate the possibility of foreign contaminants reaching the meter.
- 2 The USM can be installed horizontally, vertically or on an angle. The Communication Interface cannot face downwards.
- 3 Operating maximum pressure of 232 psi.
- 4 It is recommended that if there is any possibility that the water supply contains foreign contaminants, a strainer should be installed between the water supply and the Ultrasonic.
- 5 To reduce potential harmful effects to equipment from water hammer caused by quick closing valves, it is suggested that you purchase and install a **Carlson** slow-closing solenoid valve.
- 6 Protect the meter from freezing and from heat in excess of 266° F.
- 7 Install the register in the desired location, noting accessibility to power outlets. Mount and keep unit in an area free from dust, moisture, and extreme temperatures. **(DO NOT PLUG IN AT THIS TIME)** Remove dust cover with the thumb screws. Then use the same holes to mount unit to the wall with 4 screws. (SCREWS NOT PROVIDED)
- 8 Connect the 3-wire USM cable lead to the 3 position terminal block and secure. For output signals, connect 18-20 gauge wire to the appropriate terminals: Relay Contact and/or 4-20mA. **NOTE:THE 4-20mA OUTPUT IS AUTOMATIC ONCE THE THE MODEL AND UNIT VOLUME ARE SELECTED.**

**⚠ METER MUST BE WIRED AS SHOWN OR DAMAGE WILL OCCUR. (Refer to USM Wiring Picture)**
- 9 Insert the tranformer wire leads to the 'Power Input' terminal block and secure. Plug the transformer into a 120 volt, 60 cycle, **GFI outlet**.
- 10 Program the register following the directions supplied.



### USM WIRING



## PROGRAMMING/OPERATION INSTRUCTIONS:

Connect the transformer to the 120VAC outlet. The display will show the initial screen.

```
CARLON METER
Ultrasonic
```

Pressing the 'MENU' key allows selection of one of three modes:

1. Setup
2. Run

```
Setup
Run
```

3. Stored Values

```
Run
Stored Values
```

Use the Up/Down keys to position the Enter key prompt to Setup. Pressing 'Enter' activates the selected mode.

### SETUP MODE

```
Select a model
USM075
```

Using the Up/Down keys, select the model of Ultrasonic meter. Pressing 'Enter' saves the setting and advances to the next screen.

```
Volume Units
Gallons
```

Using the Up/Down keys, select the Volume Units either Gallons or Liters. Pressing 'Enter' saves the setting and advances to the next screen.

```
Gallons per Output
10
```

If a pulse output is desired, use the Up/Down keys to select the desired pulse output. Pressing 'Enter' saves the setting.

### RUN MODE

```
Setup
Run
```

Press the 'MENU' button and use the Up/Down keys to select Run. Pressing the 'Enter' activates the selected mode. Press the 'Start' button to activate the register and reinstall the cover.

### REAL TIME FLOW DISPLAY

To display momentary "Real Time" flow, press and the Left & Right keys simultaneously and release. Real time flow will display for 5 seconds.

Pressing the 'Cancel' button aborts the current operation. Options are to restart or reprogram the USM.

### STORED VALUES MODE

Current stored values are displayed:

```
Model Selected
USM075
```

```
Volume
per Output
```

```
Serial Number
USM100100
```

```
Manufacture Date
09/26/2019
```

```
Software Version
1.00.001
```