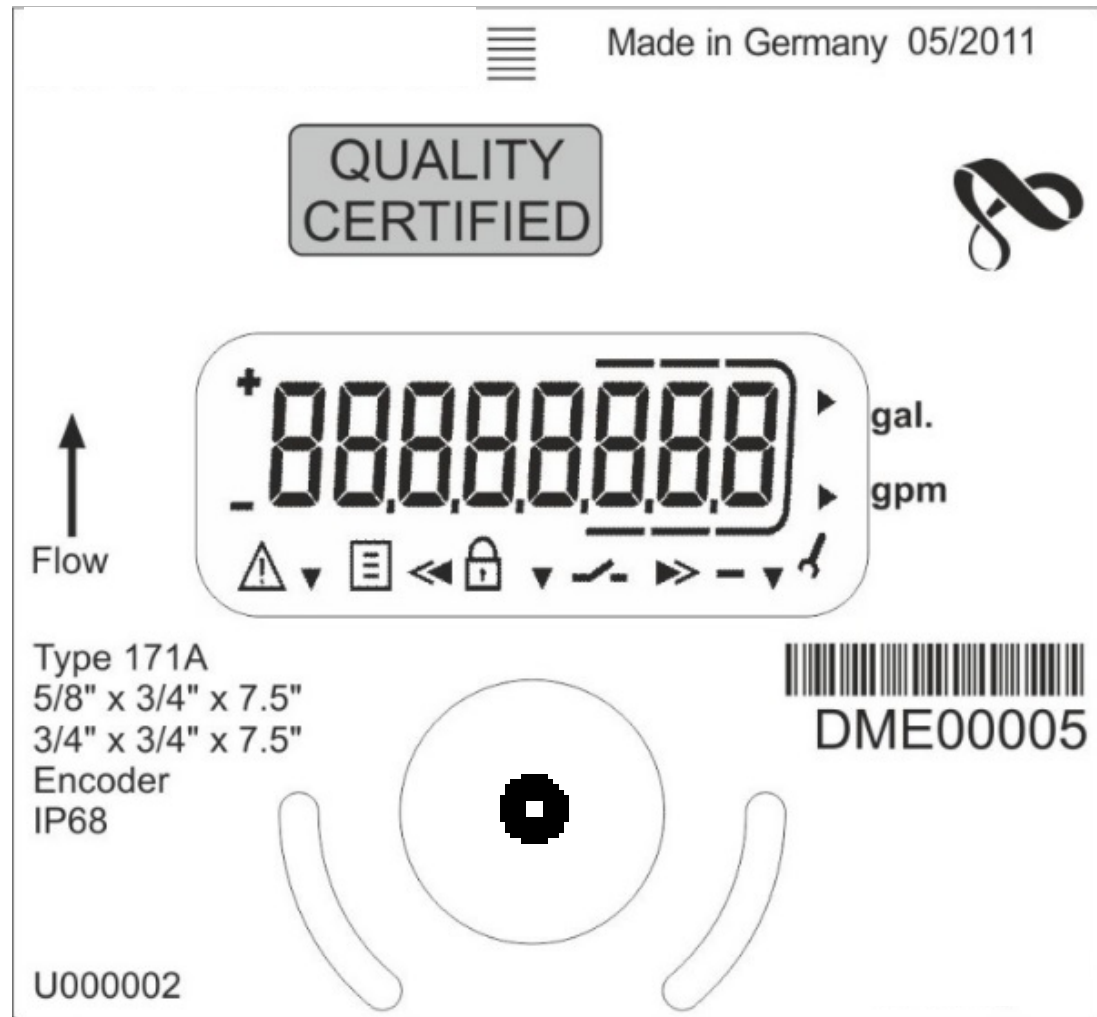


# Display Information

- The laser etched “gal” is used to represent the unit of measurement in gallons.
- The laser etched “gpm” is used to represent the rate of water flow through the meter in gallons per minute.
- Display will become active when the lid is lifted, or light enters the Optical Switch
- The display will show any currently active Errors or Alerts when starting the display loop.
- The display will move from screen to screen automatically and then continue to repeat for up to 4 minutes



# Optical Interface

- **Optical Switch**

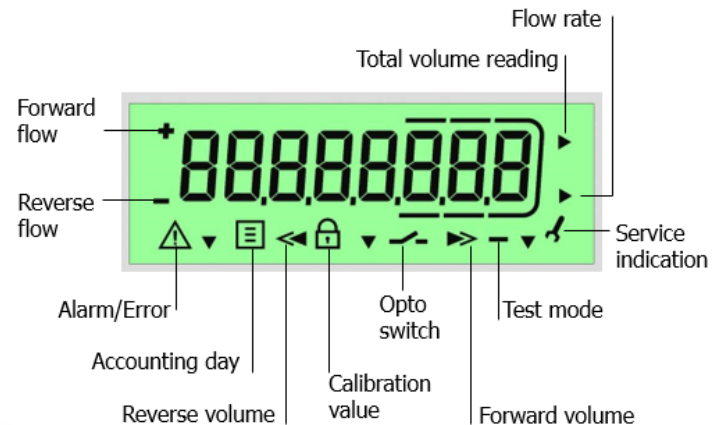
- Switch to the various displays
- A screen change can be conducted manually by covering the Optical Switch with a finger then removing it
- Switches to sleep mode if the button is not pressed for 4 minutes
- The optical switch requires light for activation so a flashlight may need to be shined on it if there is no light present.






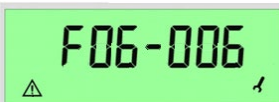


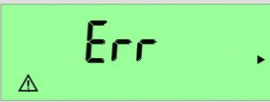
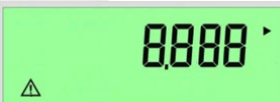


# Display Icons

## Designed to reflect the value or data indicated in the dials

- **Flow rate** – When lit the flow in gpm is being shown
- **Total volume reading** – When lit the total forward usage minus any reverse usage is shown
- **Forward flow** – When lit the water is flowing in the forward direction
- **Reverse flow** – When lit the water is moving in the reverse direction
- **Alarm/Error** – When lit the existing Errors and Alerts are shown
- **Accounting Day** – Not used in the U.S. Represents a nonmoving reading date
- **Reverse Volume** – Not used, represents only the usage that has gone in the reverse direction
- **Calibration Value** – Locked usage reading for billing. Total forward usage minus any reverse usage
- **Opto Switch** – When lit the Optical switch is closed (blocking the light from the sensor)
- **Forward Volume** – Not used, represents only the usage that has gone in the forward direction
- **Test Mode** – When lit the meter is in test mode. Ultrasonic sampling is changed to  $\frac{1}{4}$  second and only the high-resolution reading is displayed
- **Service indicator** – When lit the firmware is displayed.

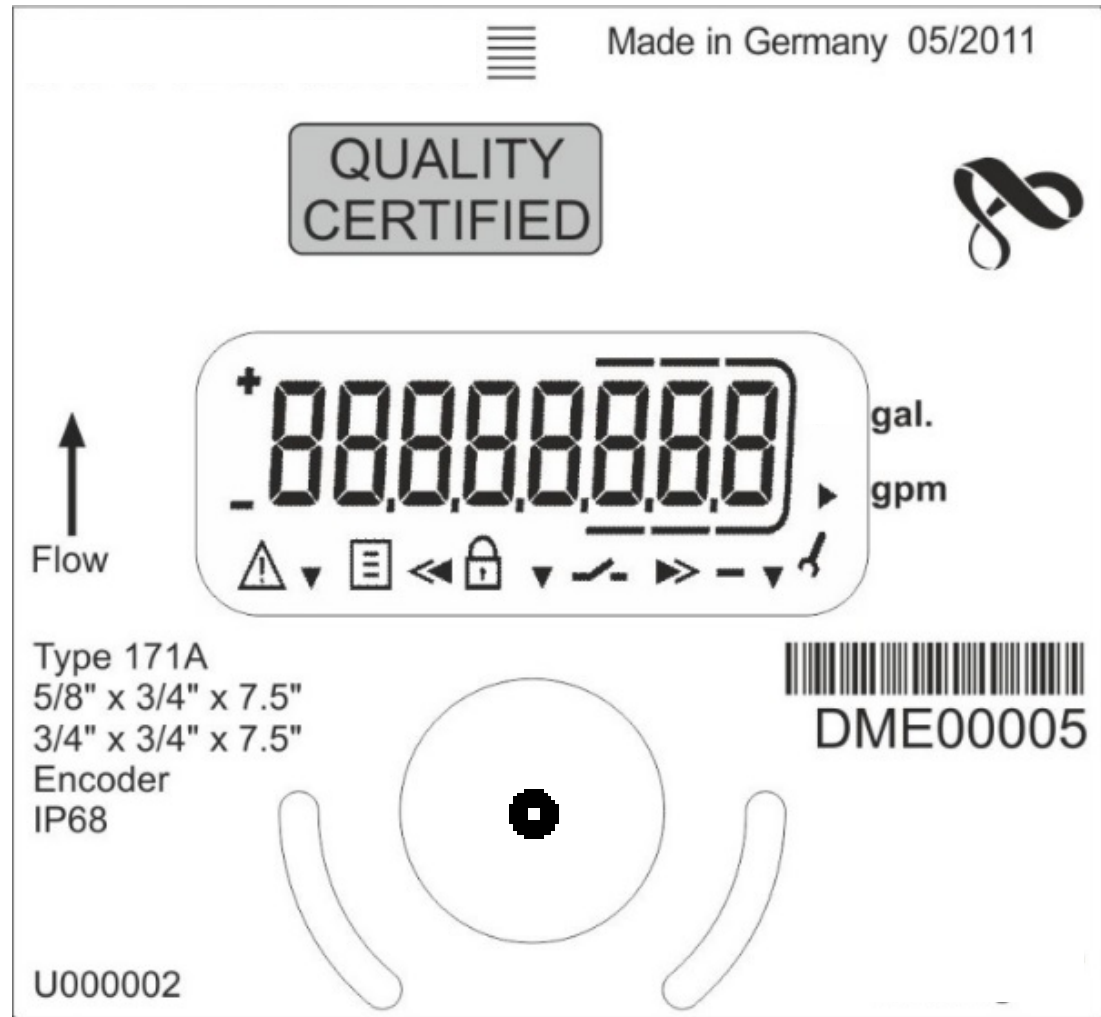


# Display Details

<p><b>0. Errors and Alerts</b> (Only displays if Errors or Alerts that are active now)</p>	<p>E for error, A for alert</p> 	<p><b>4. Errors and Alerts:</b> (Full list is available in the User Guide)</p>	<p>E for error, A for alert</p> 
<p><b>1. Current Reading gallons</b> (Counter for forward usage minus any reverse usage)</p>	<p>Reading is in tens of gallons</p> 	<p><b>5. Firmware version:</b></p>	<p>Major release version</p>  <p>Minor release version</p> 
<p><b>2. Flow screen</b> (existing flow in Gallons Per Minute)</p>	<p>If there is existing error (i.e. air in pipe)</p>  	<p><b>6. High resolution reading</b> (exposes the hundredths and thousandths place of current reading. <i>Upgraded Firmware 6 Only</i>)</p>	<p>Reading is in thousandths of gallons</p> 
<p><b>3. Current water temperature</b> (Temperature inside of the tube)</p>	<p>Temperature in Fahrenheit</p> 	<p><b>7. Screen Test</b> (Purpose is to show that all the indicators and dials are functional)</p>	<p>E for error, A for alert</p> 

# Leak Detection Test

- Make sure no water is being used inside or outside of your house.
- Locate the water meter box. Remove lid carefully to prevent damage to meter equipment.
- Cycle to flow rate screen on the meter using the optical switch.
- If the flow rate displays any reading besides 0.00 then this is an indication of a leak.



# Error and Alarm Codes

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## The SSM can detect the following errors:

Errors indicate current status:

- C 1:** Electronic error, the meter must be replaced.
- E 1:** Medium temperature too low or too high  $< 22^{\circ}\text{F}$  /  $> 212^{\circ}\text{F}$  ( $< -30^{\circ}\text{C}$  /  $> 100^{\circ}\text{C}$ ), or cable temperature sensor disconnected or cut off
- E 4:** Ultrasonic hardware error, ultrasonic transducer defective or short-circuit, or cable ultrasonic transducers disconnected or cut off
- E 5:** Communication not possible (too frequent reading over optical interface)
- E 7:** Air in supply system, flow rate measurement not possible

*Errors are shown in the display as long as they exist.*

# Error and Alarm Codes

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## The SSM can detect the following alarms:

Alarms are errors that are no longer active.

### A 1: Reverse flow

- For 1/2" – 3/4" meters: -2.113 Gal over the last 30 days

### A 3: No usage

- For 1/2" – 3/4" meters: less than 2.113 Gal over the last 30 days

### A 4: Failure of ultrasonic or temperature measuring

- Within the last 30 days

### A 5: Leak detected (continuous flow)

- For 1/2" – 3/4" meters: Limit is 0.2113 Gal continuous flow over 24 hours

### A 6: Low medium temperature 37.4°F (< 3 °C) + Error E4

- Reset after 30 days

### A 7: Air in pipe system

- Reset after 30\* days without air

### A 9: Battery too low

- If calculated battery life is less than 400 days.

*The meter must detect an alarm/error for average 6 minutes, then there is an entry in the error log.*