WM-PC Series

Use & Care Manual

1. GENERAL INFORMATION

WM-PC plastic water meters use the multi-jet principle. Multiple ports around the main chamber are used to create several flows of water against the impeller. As the impeller rotates based on velocity of the water, a gear train moves the register dials. This meter is also available with pulse output (see pulse output details).

2. SPECIFICATIONS

Temperature: 105° F (40° C) maximum
Pressure: 150 PSI operating maximum
Materials:
- Body & Couplings: FRP (fiber reinforced polymer)
- Internals: Engineered thermoplastic
- Magnet: Alnico
Accuracy: ± 1.5% (within normal flow rates)
Sensor: Reed switch
Maximum Current: 20 mA
Maximum Voltage: 24 VDC/VAC
Cable Length: 4.5’ (1.35 m) standard (2,000’ maximum run)

3. METER INSTALLATION

1. Completely flush the water line upstream of the meter to remove any possible dirt and debris.
2. Confirm that the inlet strainer is installed on the upstream side of the meter. Install the meter in the pipeline. Water meters must be installed horizontally with the register facing upwards.
3. Flow direction must match the arrow located on the meter body.
4. Once positioned and inline, slowly open any upstream valves to prevent damage to the meter.
INLET STRAINER

An annual cleaning of the strainer is usually sufficient. If water condition calls for it, it can be cleaned more often. Removing the strainer and back-flushing will loosen trapped particulates.

WARRANTY

WM-PC water meters are warranted to perform to AWWA new meter accuracy standards, and for twelve months from the shipment date will be free from defects in materials and workmanship. If a meter fails to perform as warranted, Assured Automation will repair it free of charge subject to the terms of this warranty.

Assured Automation’s liability under this performance warranty is expressly limited to the repair or replacement of the meter upon the customer’s returning the complete meter prepaid to:

Assured Automation
19 Walnut Avenue
Clark, NJ 07066

This performance guarantee is not applicable to meters which have been damaged by aggressive water conditions, foreign matter in media, misapplication, willful misconduct, negligence, vandalism, act of God, improper installation, frost/freeze damage or using the meter outside of its specific operating parameters (especially temperature and flow ranges).

In no event shall Assured Automation be liable for incidental or consequential damages of any kind, including but not limited to loss of profits or revenue, loss of use, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays and claims of customers of the customer or other third parties.

 calibration

These new meters are produced in an ISO9001 certified production facility and are built in accordance with AWWA C708 standards for multi-jet meter accuracy.
**KAL-D06**

**Features**
- 8 Digits Standard
- Meets NEMA 4X and IP65 Ratings
- Long Life (10 Year) Lithium Battery
- 10 kHz Count Speed
- Screw Terminal Block
- Slow Speed Input for Contact Closures
- High Speed Input for Sinking Inputs from a Max. of 18VDC Without Module
- Quadrature and High Voltage (10 to 240 V AC; 2 to 110V DC) Inputs Optional
- UL Listed

**Description:** The KAL-D06 counters are small, lithium battery powered, totalizing counters that are panel mounted. The counters are designed as replacements for standard electro-mechanical counters. They use the latest custom CMOS technology and incorporate an 8 digit, 0.354" (9mm) high, LCD display.

It operates from a long life lithium battery (life 10 years) and can be operated from contact closure or high speed electronic devices. No separate alkaline batteries are required. The front reset button can be disabled if desired.

**Specifications:**
- **Battery:** Non-replaceable Lithium battery, expected life of 10 years at 20°C
- **Display:** 8 digit black LCD, Digit size 0.354" (9mm) high, leading zero blanking.
- **Backlight:** backlight requires external 5V supply (±0.5V @ 20mA). 12V, 24V and 30V can be used with the use of an external resistor, see backlight wiring diagram for details and resistor values.
- **Reset:** Panel or remote (can be disabled if desired)
- **Count Range:** 0-99999999, rollover to 0
- **Temperature Range:**
  - Operating: 14 to 140°F (-10 to 60°C)
  - Storage: -4 to 140°F (-20 to 60°C)
- **Battery Life:** 10 years at 20°C (calculated)
- **Relative Humidity:** 80% max. up to 31°C, decreasing to 50% max. at 40°C
- **Connection:** Finger-proof screw terminal for wires up to 0.06"^2 (1.5mm²)
- **Sealing:** NEMA 4X/IP65; Remove film from self adhesive gasket before use! Overvoltage Category II, Pollution Fegree 2 (IEC 64)
- **Certifications:** UL Listed

**KAL-D06 Wiring:**

1 - High Speed Count Input
2 - Low Speed Count Input
3 - External Reset Input
4 - Direction Input
5 - External Power for Backlight
6 - 0V, Common

**High Speed Count Input:**
- Sink input NPN
- \( R = \text{Internal resistor 3.3M}\Omega \)
- Max 18V, threshold 1V
- Negative edge trigger
- Max. 10kHz, min. 50µS

**Low Speed Count Input:**
- Sink input NPN or contact closure
- \( R = \text{Internal resistor 3.3M}\Omega \)
- Max 18V, threshold 1V
- Negative edge trigger
- Max. 30HZ, min. 15mS

**External Reset Input:**
- Sink input NPN or contact closure
- \( R = \text{Internal resistor 3.3M}\Omega \)
- Max 18V, threshold 1V
- Negative edge trigger
- Min. 15mS

**Direction Input:**
- Sink input NPN or contact closure
- \( R = \text{Internal resistor 3.3M}\Omega \)
- UP: Not connected or >2V (logic 1), max 18V
- DOWN: Connected to common or <1V (logic 0)
- Direction signal must change >5µS before Count signal.
How To Order:

KAL-D06 ................. 8 digit counter with 10 yr battery
KAL-DQUAD06 .......... 8 digit counter with 10 yr battery
                     with Quadrature Input
KAL-D06AC/DC ........... 8 digit counter with 10 yr battery
                     with High Voltage Input

Accessories
N7 - Explosion proof housing (see accessories section)
E200 - Outdoor Enclosure (see accessories section)

Dimensions

Panel Cutout: 0.92" x 1.77" (22.5 x 45 mm)