

## 1500 Electromagnetic Flowmeter Digital Pulse Output

### Scope

This document describes the equipment and setup procedure for pulse outputs on the I500 electromagnetic flowmeter only.

### Introduction

The three possible digital output types on the I500 flowmeter include pulse, frequency and alarm. This technical bulletin describes the standard operating procedure used to configure the digital pulse outputs within the flowmeter menu system and also correct methods of wiring the external circuits to the flowmeter's PCA connectors and is to be used in addition to the I500 user manual.

### Equipment

1. I500 electromagnetic flowmeter
2. Digital multimeter set to measure current in mA range
3. LED, load resistor, wires



Be careful not to create short circuits when using a multimeter in current mode. It is recommended the multimeter is always secured to wires using insulated clips.

### Step 1: Setup Pulse Output in the Flowmeter Menu System

The pulse delivered by the flowmeter functions as an 'on' state. The switch latches closed for a brief duration before returning to open circuit. In the majority of applications, the pulse output is triggered by passage of volume through the flowmeter and accumulation of the totalizer.



To configure pulse outputs, please follow the step by step guide described on pages 50, 52 and 53 of the I500 user manual,

#### Step 1.A Set the Pulse Scaling:

The pulse scale can be set via the flowmeter menu system and is measured in units of 10L.

Value	Totaliser increment (Litres)	Totaliser increment (Kilolitres)
1 (minimum)	10L	
10	100L	
100	1000L	1KL
1000	10000L	10KL
10000	100000L	100KL
50000 (maximum)	500000L	500KL

#### Step 1.B Set the Pulse Width:

The pulse width is also set via the flowmeter menu system, input in units of milliseconds. For example, a value of 20 equals 20 milliseconds, 100 = 100 milliseconds, etc.



**Step 2: Calculate the Load Resistor Value**

The I500 board is limited to the following voltage and current values at the digital outputs:

- Voltage range: 5V-30V
- Current Range: 100mA upper limit

Load resistors are required to limit the current flow, preventing damage to electronic components. Select an appropriate load resistor by considering the voltage drop across the LED, the voltage of the power source and the LED current (mA).

**Step 3: Connect Wiring**

Refer to Figure 1 for schematic. Connect the negative terminal of the voltage source (V-) via circuit into the common terminals DO 1 COM and DO 2 COM. If the application requires a flashing LED, Connect the LED cathodes (shorter legs) via circuit to the terminals DO 2+ and DO 1+. Load resistors are necessary between the LED anode (longer legs) and V+ (voltage source positive).

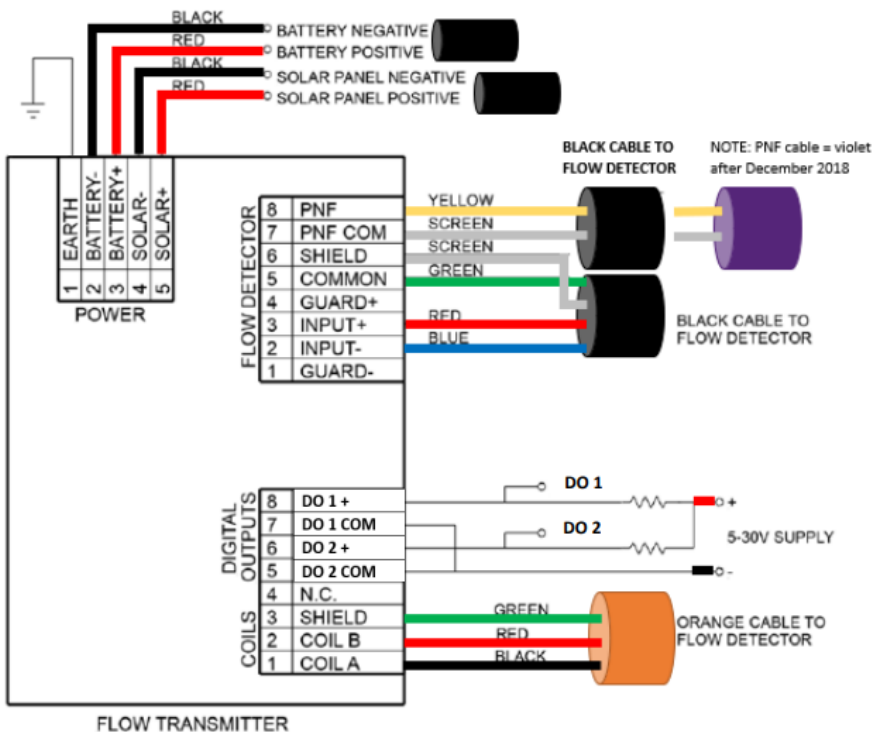


Figure 1: Wiring Diagram