Instruction **Manual**

- **SC700-WP1**
- **SC700-WP1/1S**
- **SC700-WP1/2S**
- **SC700-WP1-PE-1.3**

PROPORTIONAL BATCH DOSING CONTROLLER
Fixed volume dosage per water meter pulse count

Supplied by:

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Manufacturer: Convergent Water Controls Pty Ltd, Sydney Australia.

Note: On-going product development at Convergent Water Controls may lead to changes in the specifications of this product.

Warranty: This product is guaranteed for a period of 12 months from installation date. The warranty applies to manufacturing or component defects which may cause the unit to malfunction under specified conditions. The guarantee does not cover damage due to abuse, tampering or improper installation.

Disclaimer: Convergent Water Controls will not be held liable for any consequential damage or loss arising resulting from product malfunction.

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1. INTRODUCTION

The SC700 controller is designed to control a dosing pump based on pulses from a water meter, to achieve proportional dosing.
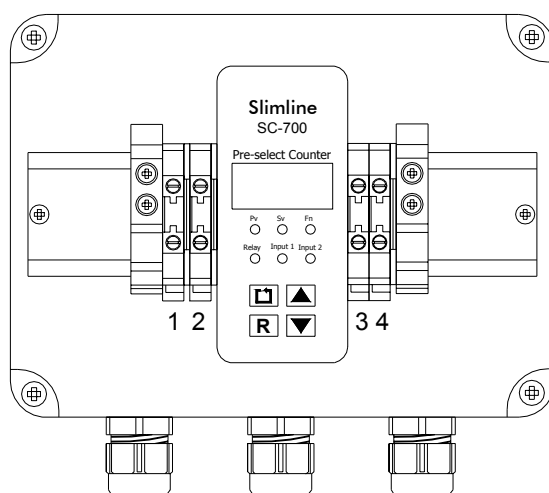
1.1 Features

- Display shows present pulse value (i.e. PV).
- Simple 3-button programming. Setting up is simple, easy and accurate!
- The unit has a digitally programmable totaliser (or pulse count) that relates to a certain volume of water, read from an input pulse, such as from a water meter.
- Mains 240VAC powered. All programmed parameters are stored in non-volatile memory (EEPROM).
- Tamper proofing which disables push buttons

2. INSTALLATION

2.1 Electrical Wiring Information

The diagram below shows the DIN rail connections of the controller

1. Pump Active 240VAC supply
2. Pulse Neutral 240VAC supply

3 & 4 Water Meter (not polarity sensitive)

2.2 Description of Operation

Input pulses, such as from a water meter, are counted by the controller. Once a pre-set value is reached, the pump is activated to dose for a set time period and the pulse count is reset.

3. COMMISSIONING AND PROGRAMMING

Commissioning & programming should be performed only by a qualified technician.

IMPORTANT: **AS THE UNIT NEEDS TO BE POWERED DURING PROGRAMMING, BE VERY CAREFUL NOT TO TOUCH ANY OF THE SCREW TERMINALS, AS THEY MAY BE LIVE, AND CAN RESULT IN ELECTRIC SHOCK, OR EVEN DEATH.**

3.1 Start-Up

- After power-up, the SC700 controller displays the present value of the input pulse (3-digit LED display) and the Pv LED illuminates.

Status	LED ON	3 digit 7-segment LED Display D1
Normal operation:	Pv (green)	Present value (ie. present pulse count)
Setting pulse count:	Sv (green)	Set value
Programming mode:	Fn (green)	Function number, eg. Fn2

D1   3 digit 7 segment LED display

L1   Green Present Value (Pv) LED
L2   Green Set Value (Sv) LED
L3   Green Function (Fn) LED
L4   Red Relay (pump on) LED
L5   Red Input 1 (water meter pulse) LED
L6   Red Input 2 LED (not used)

B1   Menu Scroll button
B2   Reset button
B3   Scroll up/increment button
B4   Scroll down/decrement button

3.2 Set Pulse Count (Set Value Sv)

This is the pulse input number at which the pump will be activated.

Each time there is a pulse input from the water meter, the Present Value (Pv) will increment by one until the Set Value (Sv) is reached, at which time the pump will be activated (eg. if Sv=10, when 10 pulses are counted, the pump will activate).

1. Press the menu scroll button (B1) until the Sv LED illuminates
2. Increment of decrement the reading on D1 using buttons B3 & B4 until the desired pulse count is reached (eg. 10)
3. Press the menu scroll button (B1) until the Pv LED illuminates

3.3 Set Dose Time

This is the time period when the pump will be active (i.e. ON) every pulse count. The pump will dose for the set dose time every time the Sv is reached.

1. Press the menu scroll button (B1) until the Fn LED illuminates and Fn3 is displayed on D1
2. Increment of decrement the reading on D1 using buttons B3 & B4 until the desired dose time (in 0.1 second increments) is reached (eg. 605 = 60.5 sec)
3. Press the menu scroll button (B1) until the Pv LED illuminates

3.4 Other Settings

The SC700 has other settings which should not be changed from the factory default settings. These are as follows:
Fn1 = Add
Fn2 = rising edge symbol
Fn4 = 001

3.5 Tamper Proofing

All buttons except the Reset (R) button can be disabled to prevent tampering with the menu settings as follows:

1. Press the menu scroll button (B1) until the Pv LED illuminates
2. Press & hold buttons B3 & B4 down simultaneously – "Loc" will be displayed. Continue holding these buttons until the "Loc" message disappears
3. To enable the buttons again repeat steps 1 & 2

4. FACTORY SETTINGS / PROGRAMMABLE OPTIONS

Item	Factory Setting	Option	Note
Pv	0	0 – 999 pulses	Present pulse count
Sv	005	0 – 999 pulses	Set pulse count
Fn1	Add	Add, Sub, AS1, AS2	Mode
Fn2	Rising edge symbol	Rising edge symbol or Falling edge symbol	Mode
Fn3	050	000 – 250 (x 0.1sec)	Desired time for pump to be ON every pulse count
Fn4	001	001 - 250	Prescale eg. if set to 2 Pv increments every 2 pulses rather than every 1 pulse

5. SPECIFICATIONS

Power Supply:	220 – 240 VAC
Inputs:	Potential free pulse contact, eg. water meter
Outputs:	240VAC applied to pump or GPO – 10 Amp rated.
Resolution of pulse input:	1 pulse
Resolution of timer settings:	0.1 second
Controller Enclosure rating:	IP55 (ie. completely weatherproof)