Dishwashing systems
Bright Logic D2
& IP Dosing systems (Full Instructions)

CONTENTS

The Bright-Logic D2 Dishwash Unit is an automatic dosing system designed for use with commercial, **TUNNEL AND CONVEYOR TYPE** dishwashing machines.

The Bright-Logic IP Dishwash Unit is an automatic dosing system designed for use with industrial, **TROLLEY/CRATE** dishwashing machines.

The unit can be selected to operate in one of the following modes:-

Timed/Signalled Mode - Detergent initial charge options; Off, Power-up, Signalled, Auto. Timed detergent top-up charge. Timed rinse charge. Speed control. Pulse settings. Cycle and Run-time counters. Security access codes. Increase output feature to boost the detergent dose at up to four busy periods during each day.

The pumps are initiated by supplying signals of between 12V and 240V AC or DC across the corresponding Inputs of the A Rail and B Rail situated on the board. Signals must be present for the duration of the 1 second signal acceptance time before they are acknowledged.

Pumps can also be initiated by 'volt-free' switch connections (SW1 - 4).

Auto initial charge option - offers the use of a single signal to activate the initial charge, top up charge and rinse charge. With the inclusion of LK1 (see page 3), a single signal can be taken to input 3 of the Powerboard; the top up charge is initiated by the signal becoming 'high', the rinse charge is initiated by the signal becoming 'low' and the initial charge is initiated by the signal remaining 'high' for the duration of the programmed Initial charge delay period.

Cyclic Mode - Detergent initial charge options; Off, Power-up, Signalled with signal acceptance time. Cyclic detergent top-up charge. Cyclic rinse charge. Speed control. Cycle (initial charge only) and Run-time counters. Security access codes. Increase output feature to boost the detergent dose at up to four busy periods during each day.

The pumps are initiated by supplying signals of between 12V and 240V AC or DC across the corresponding inputs of the A Rail and B Rail situated on the board. Signals must be present for the duration of the 1 second signal acceptance time before they are acknowledged.

Pumps can also be initiated by 'volt-free' switch connections (SW1 - 4).

The pumps will cycle ON and OFF for the duration that a signal is present across the relevant inputs.

Conductivity Mode - Conductivity probe options; Auto, Signalled. Probe controlled detergent charge with 'scanlock' facility. Cyclic rinse charge. Speed control. Run-time counters. Security access codes. Increase output feature to boost the detergent dose at up to four busy periods during each day.

The rinse pump is initiated by supplying a signal of between 12V and 240V AC or DC across the corresponding input of the A Rail and B Rail situated on the Powerboard. This signal must be present for the duration of the 1 second signal acceptance time before it is acknowledged.

Pumps can also be initiated by 'volt-free' switch connections (SW1 - 4).

The rinse pump will cycle ON and OFF for the duration that a signal is present across the relevant inputs.

The probe incorporates an alarm delay that elapses during the operation of the detergent pump. If the pump is still operating after this duration, then a buzzer is sounded, a warning is displayed on the screen and the unit will ignore subsequent signals. The buzzer can be silenced by pressing the UP key (the unit will remain static). The unit is reset by pressing and holding the UP key for 2 seconds.

Two probes can be purchased, a simple conductivity probe or a more advance inductive probe with tank temperature display. Both these kits are to be supplied separately.

The Bright-Logic D2 utilises two single pumpheads. As standard, the left pumphead (pump 1, clockwise) is the detergent pump and the right pumphead (pump 2, clockwise) is the rinse pump.

The IPD1 utilises a single highflow pumphead for pump 1 and all reference to pump 2 should be ignored.

The IPD2 utilises a singe highflow pumphead for pump 1. Pump 2 can utilise a single or highflow pumphead.

The option of a third pump is also avaliable if required. This can utilise a single or highflow pumphead and can operate at any time.

Important Safety Instructions

Please read the following precautions carefully before using this equipment. This unit contains high voltage circuits that may expose you to the danger of electric shock.

Do not **open the enclosure without** <u>**isolating the signal and supply sources.**</u> Ensure that these sources have been isolated for at least 5 minutes before entering the enclosure.
Means for disconnection must be incorporated in accordance with the wiring rules.

Do not mount the unit to unstable, irregular or non-vertical surfaces.

Do not place heavy objects on top of the unit.

Do not attempt to place items (such as screwdrivers) into the moving parts of the Pumphead.

Do not power the unit outside of the values stated on the rating label.

Do not use damaged or frayed cables.

Do not dismantle or modify this equipment.

Always ensure that care is taken when handling chemicals.

LCD Display

Keypad

Single Pumphead
Pump 1 - CW

Single Pumphead
Pump 2 - CW

Screw Cover

LCD Display

Keypad

Highflow Pump

Supply entry
(20mm)

Supply entry
(20mm)
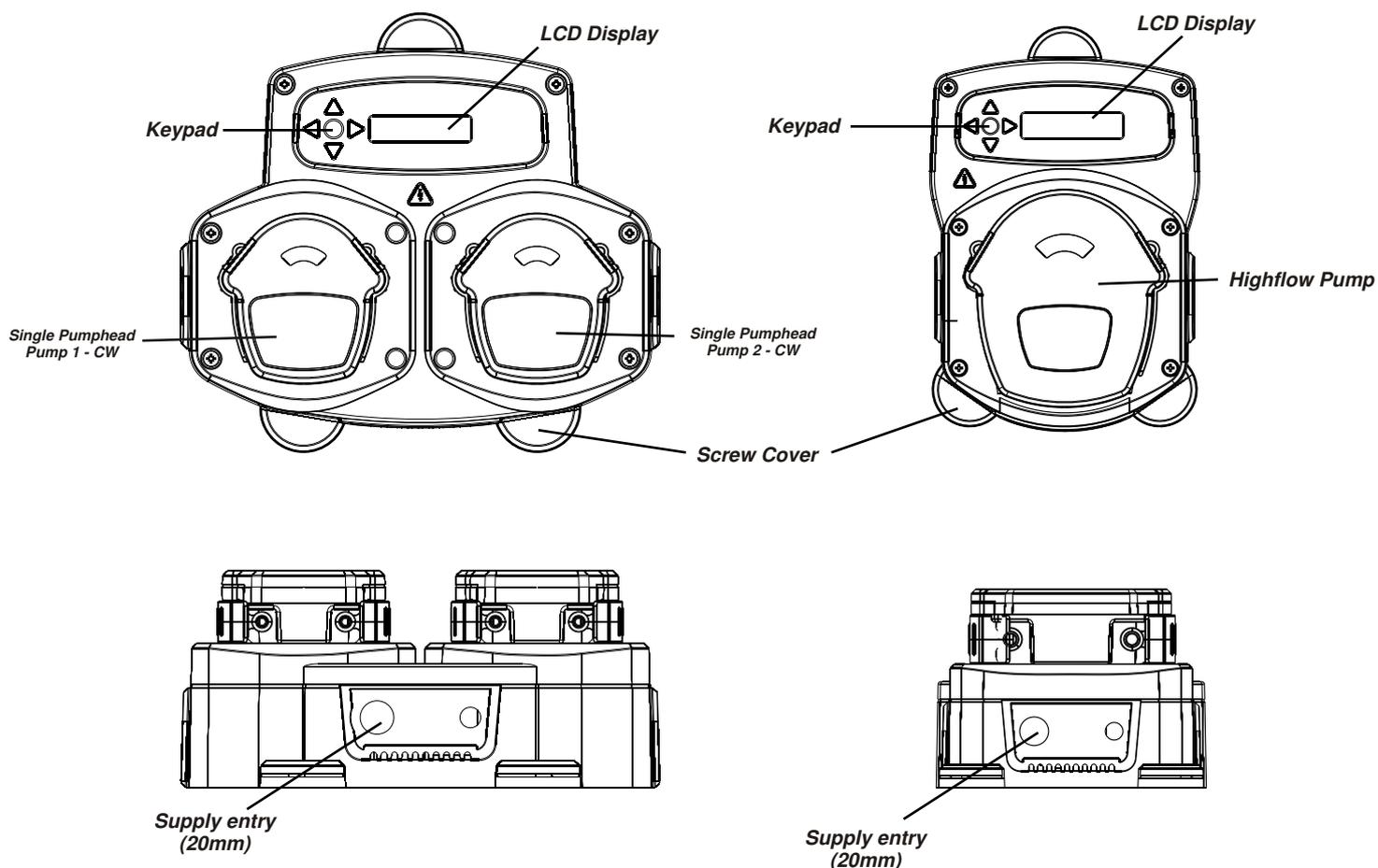
Note - Suitable cable glands and
cable size should be used to ensure
that the units IP rating is kept

UNIT LAYOUT - *KEYPAD & SCREEN*

Up

Prime

Down

Input Signal Number
(test screen only)

1 2 3 4
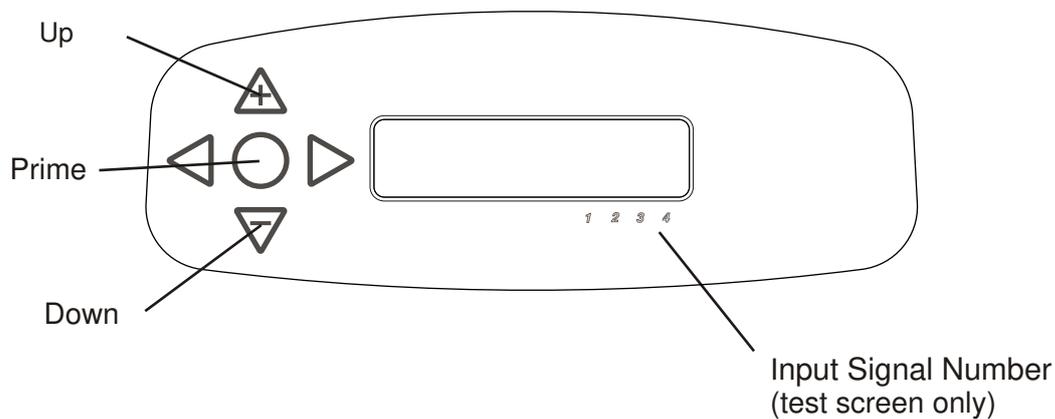
UNIT LAYOUT - CONTROLLER BOARD

Used on:
  D2
  IP
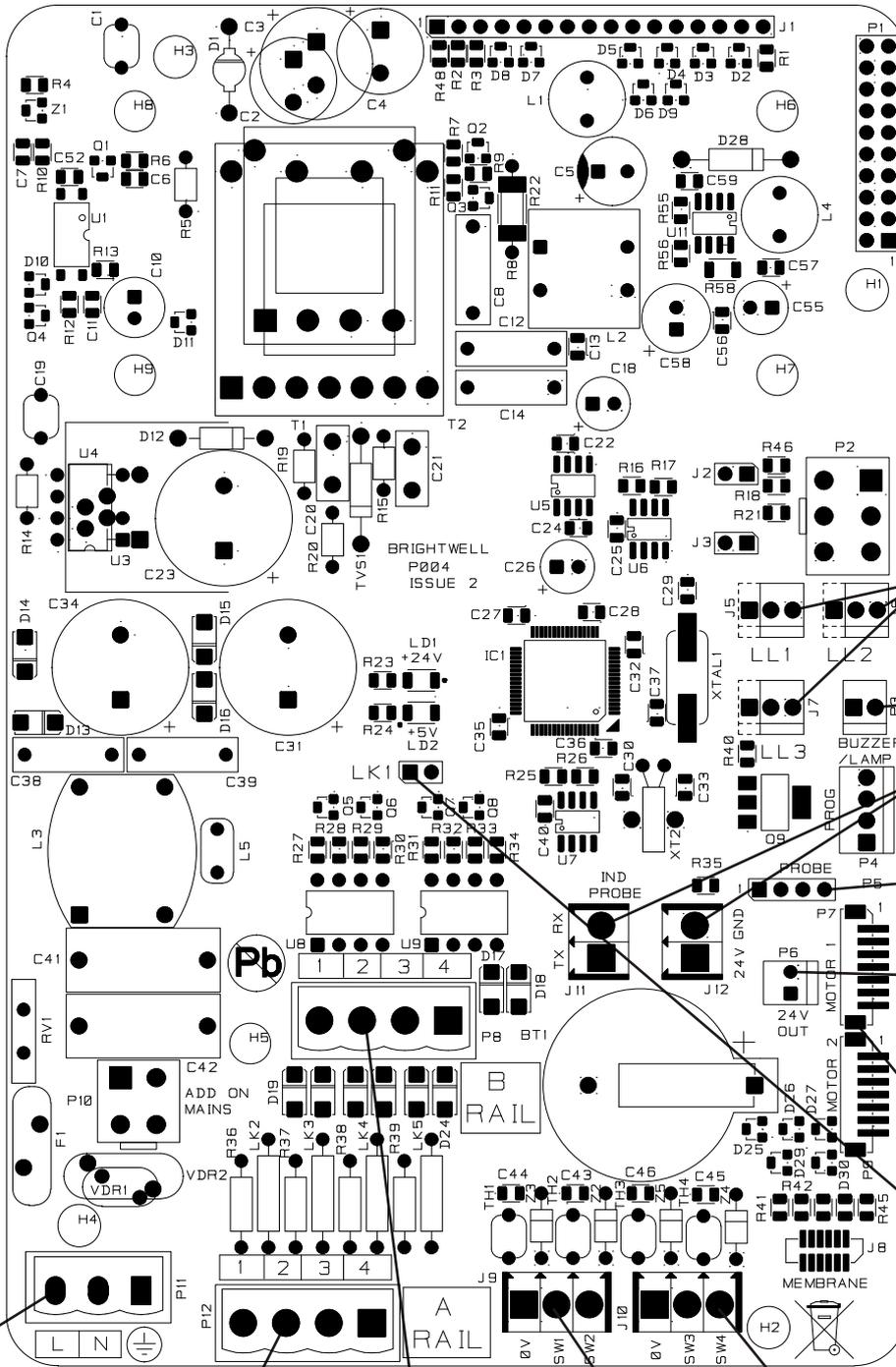
Low Level Alarm Connections

Buzzer Output

Inductive Probe Connection

Conductive Probe Connections

24 V DC Output

Motor Connections

LK1 (Joins inputs 2 &3)

Supply 100-240V AC

A Rail

B Rail

Sw1 & Sw2

Sw3 & Sw4

Volt-free contact switches

Fix the unit to a vertical wall using the screws provided. Note, some walls will require special fixings.

Ensure that the unit is level and positioned no more than 2 metres above the base of the product, which is to be dispensed.

Important Notes.
Maximum recommended suction and delivery tubes - 2 metres
Minimum tube size - 6x9mm

Ø **6mm**

+ **x 3 per Enclosure**

**MAXIMUM
2 Metres**
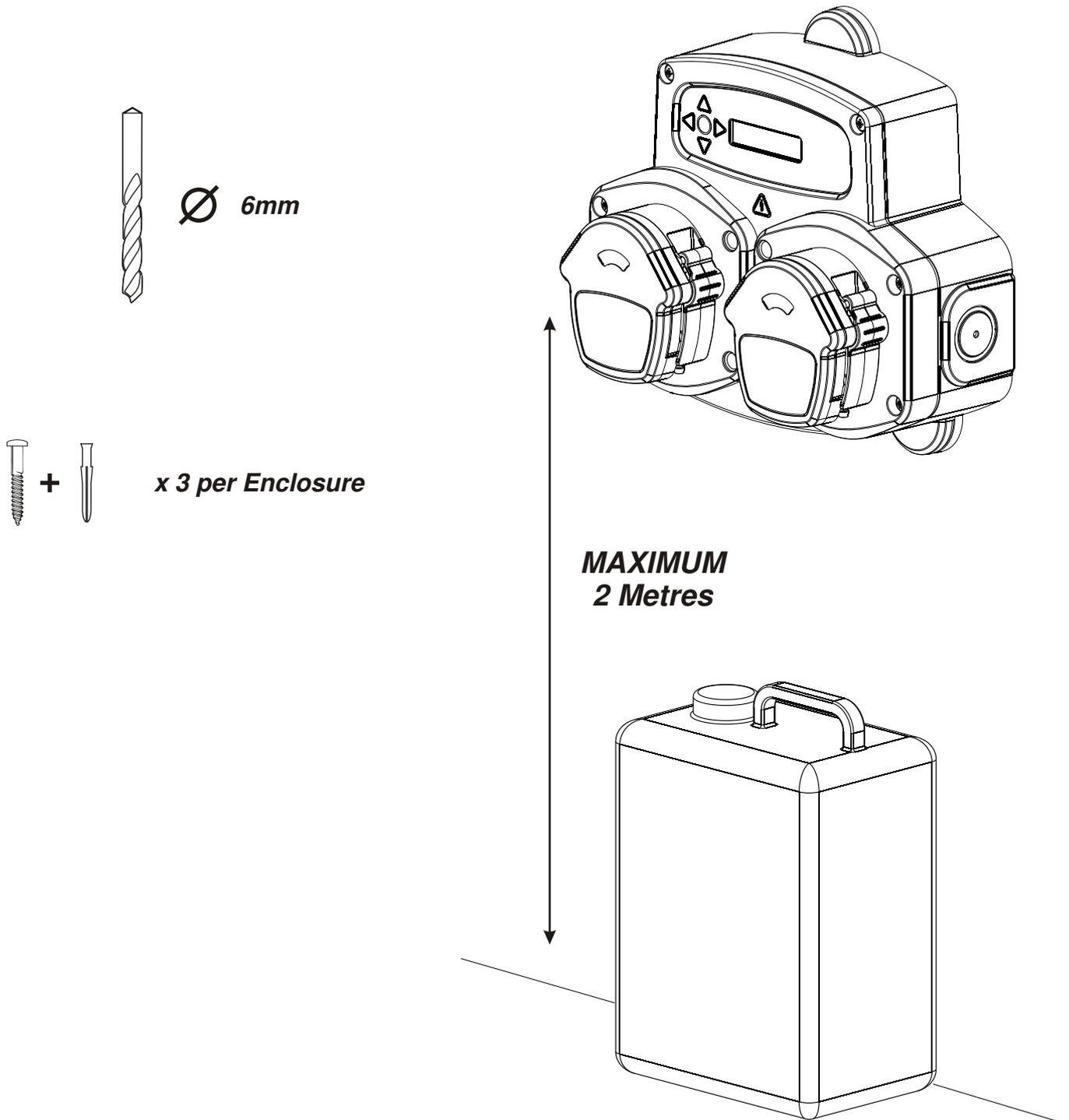
LK1

Can be fitted/removed as required.
When fitted, inputs 2 & 3 are joined to allow a single signal to initiate pumps 1 & 2. This can be connected to either input 2 or 3.
When removed, a separate signal is required to input 2 (for pump 1) and input 3 (for pump 2).

Input Signals
Between 12 and 240V AC or DC

Input 1 - Initial Charge
Input 2 - Detergent Pump & Initiates Probe
Input 3 - Rinse Pump
Input 4 - Pump 3

B Rail
Negative connections

A Rail
Positive connections

Sw4
Sw3
Sw2
Sw1

100V - 240V AC 50/60Hz
Sourced from a point that is Isolated when the machine is off

Recommended Wiring
Max Size = 1.5mm²
Min Size = 0.5mm²
Current = 0.5A

SW1 - SW4 - 'volt free' switch inputs
Sw1- Initial charge   Sw2- Detergent pump
Sw3- Rinse pump   Sw4- Pump 3

TIMED/SIGNALLED MODE

LK1 in place

Initial charge - connect to an appropriate signal source when selecting the initial charge operation as signalled from the programming parameters.

Wash Cycle Run Lamp
or
Coil of Wash Contactor
or
Cam Timer
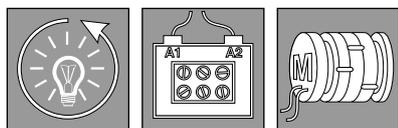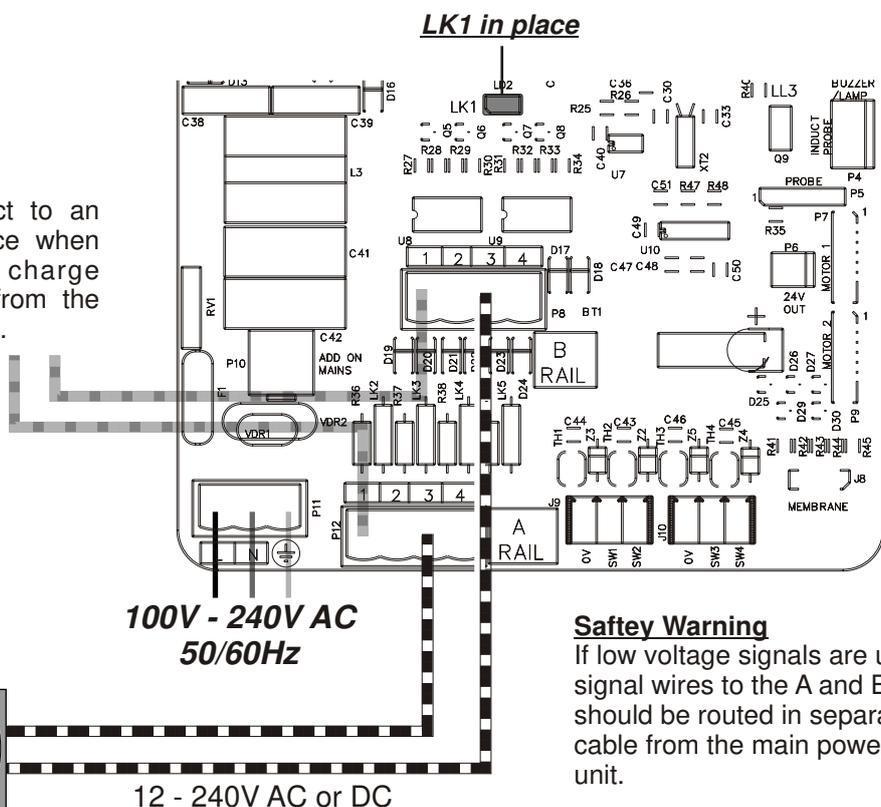
100V - 240V AC 50/60Hz

12 - 240V AC or DC

Saftey Warning
If low voltage signals are used, signal wires to the A and B rails should be routed in separate cable from the main power to the unit.

CYCLIC MODE

LK1 in place

Initial charge - connect to an appropriate signal source when selecting the initial charge operation as signalled from the programming parameters.

Solenoid Valve (rinse)
or
Rack Switch

100V - 240V AC 50/60Hz

12 - 240V AC or DC
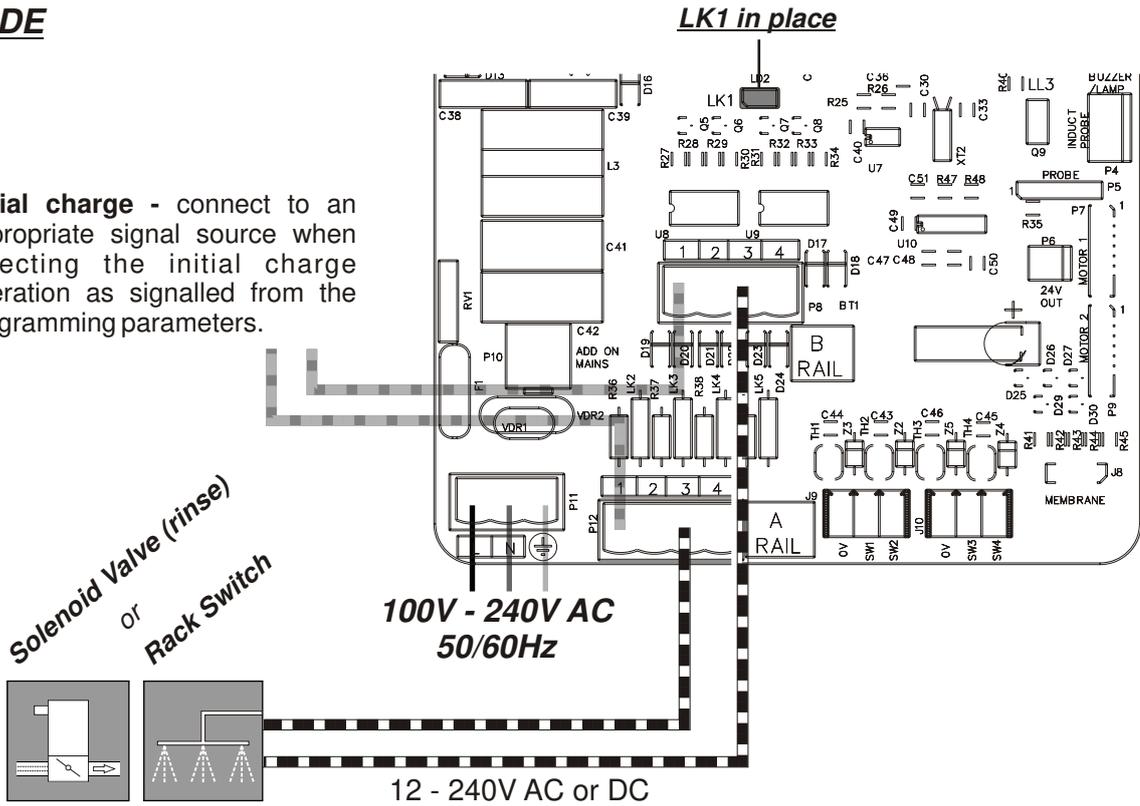
Recommended Wiring
Max Size = 1.5mm²
Min Size = 0.5mm²
Current = 0.5A

CONDUCTIVITY MODE

LK1 in place

Probe activation - connect to an appropriate signal source when selecting the probe operation as signalled from the programming parameters (the probe will only function when a signal is present across input 2).
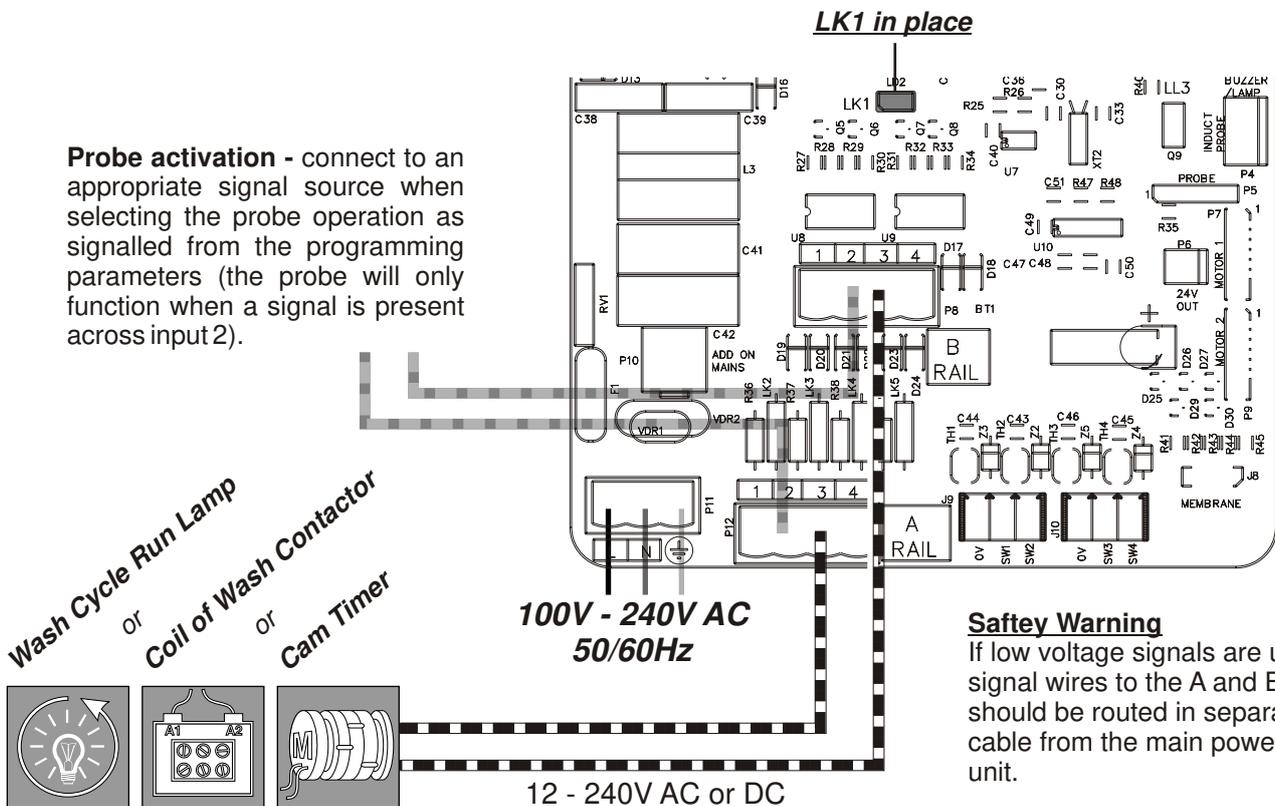
Wash Cycle Run Lamp
or
Coil of Wash Contactor
or
Cam Timer

100V - 240V AC 50/60Hz

12 - 240V AC or DC

Saftey Warning
If low voltage signals are used, signal wires to the A and B rails should be routed in separate cable from the main power to the unit.

The D2 is sent out as a Cyclic unit. To change an existing unit press the **UP** and **DOWN** keys simultaneously for 2 seconds.

When prompted, enter the four digit access code using the **UP** and **DOWN** keys to select the number and **FWD/ACCEPT** key to move on.

Press the **UP** and **DOWN** keys to scroll between the three operating modes.

Press **FWD/ACCEPT** to select the displayed mode.

Press **FWD/ACCEPT** to confirm the selection or **BACK** to return to the previous screen.

```
SELECT UNIT TYPE        SELECT UNIT TYPE        SELECT UNIT TYPE
  TIMED/SIGNAL            CONDUCTIVITY              CYCLIC

  TIMED/SIGNAL            CONDUCTIVITY              CYCLIC
  CONFIRM YES            CONFIRM YES              CONFIRM YES

00000        D2        00000        D2        00000        D2
  TIMED/SIGNAL           CONDUCTIVITY              CYCLIC
```
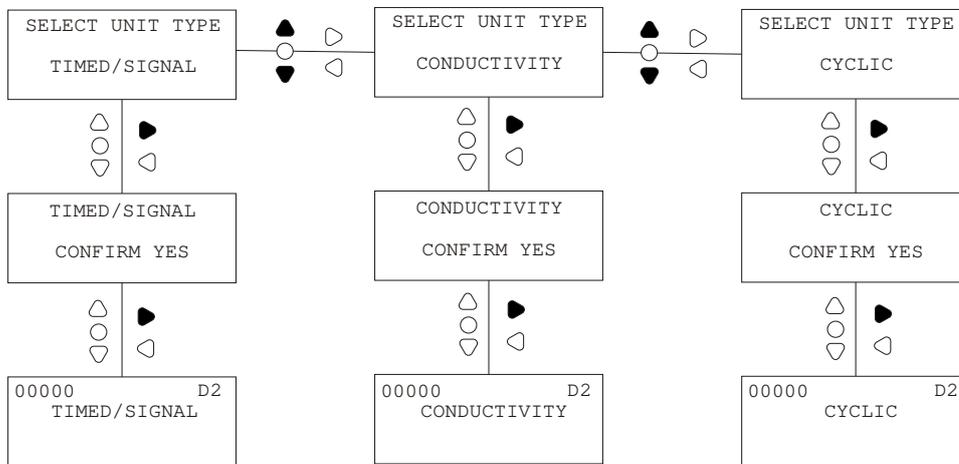
PROGRAMMING - ENTERING PROGRAM MODE

Press the **FWD/ACCEPT** button from the default screen. Enter the correct four digit Access Code using the **UP** and **DOWN** keys to select a number and the **FWD/ACCEPT** key to move on.

The unit will enter program mode when the correct Access Code has been entered. Refer to the relevant Section for programming parameter information.
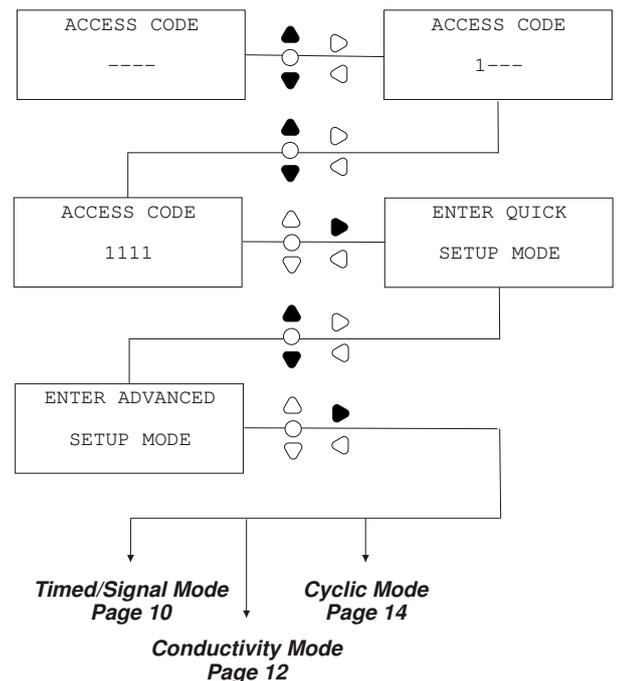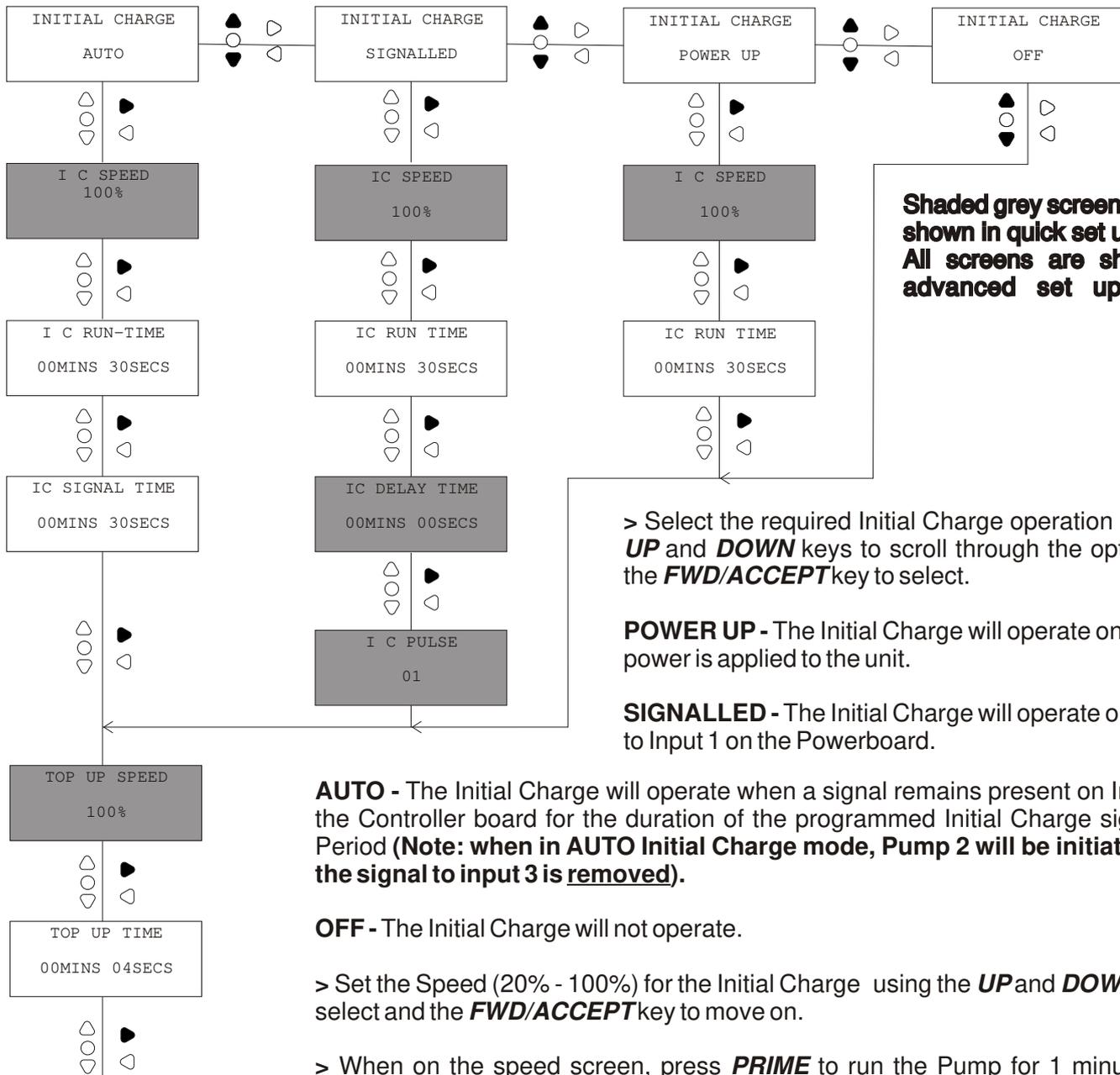
```
ACCESS CODE              ACCESS CODE
 ----                     1---

ACCESS CODE              ENTER QUICK
 1111                    SETUP MODE

ENTER ADVANCED
 SETUP MODE
```

Timed/Signal Mode Page 10   *Cyclic Mode Page 14*

Conductivity Mode Page 12

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ INITIAL CHARGE  │      │ INITIAL CHARGE  │      │ INITIAL CHARGE  │      │ INITIAL CHARGE  │
│     AUTO        │      │    SIGNALLED    │      │    POWER UP     │      │      OFF        │
└─────────────────┘      └─────────────────┘      └─────────────────┘      └─────────────────┘
```

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│  I C SPEED      │      │   IC SPEED      │      │   I C SPEED     │
│    100%         │      │    100%         │      │    100%         │
└─────────────────┘      └─────────────────┘      └─────────────────┘
```

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ I C RUN-TIME    │      │  IC RUN TIME    │      │  IC RUN TIME    │
│ 00MINS 30SECS   │      │ 00MINS 30SECS   │      │ 00MINS 30SECS   │
└─────────────────┘      └─────────────────┘      └─────────────────┘
```

```
┌─────────────────┐      ┌─────────────────┐
│ IC SIGNAL TIME  │      │  IC DELAY TIME  │
│ 00MINS 30SECS   │      │ 00MINS 00SECS   │
└─────────────────┘      └─────────────────┘
```

```
                         ┌─────────────────┐
                         │   I C PULSE     │
                         │     01          │
                         └─────────────────┘
```

Shaded grey screens are not shown in quick set up mode. All screens are shown on advanced set up mode.

> Select the required Initial Charge operation using the **UP** and **DOWN** keys to scroll through the options and the **FWD/ACCEPT** key to select.

POWER UP - The Initial Charge will operate once, when power is applied to the unit.

SIGNALLED - The Initial Charge will operate on a signal to Input 1 on the Powerboard.

```
┌─────────────────┐
│  TOP UP SPEED   │
│    100%         │
└─────────────────┘
```

```
┌─────────────────┐
│  TOP UP TIME    │
│ 00MINS 04SECS   │
└─────────────────┘
```

AUTO - The Initial Charge will operate when a signal remains present on Input 3 on the Controller board for the duration of the programmed Initial Charge signal time Period **(Note: when in AUTO Initial Charge mode, Pump 2 will be initiated when the signal to input 3 is <u>removed</u>).**

OFF - The Initial Charge will not operate.

> Set the Speed (20% - 100%) for the Initial Charge using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

> When on the speed screen, press **PRIME** to run the Pump for 1 minute at the displayed speed to check the flowrate. Press **UP** and **DOWN simultaneously** to enter the flowrate and the date of measurement. Press **FWD/ACCEPT** to select the displayed speed.

> Set the Run-time (00:00 - 99:59 mins/secs) and Delay time (00:00 - 99:59 mins/secs) for the Initial Charge using the **UP** and **DOWN** keys to select the required time and the **FWD/ACCEPT** key to move on.

> Set the Speed (20% - 100%) for the Top Up using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

> Set the Run-time (00:00 - 99:59 mins/secs) for the Top Up using the **UP** and **DOWN** keys to select and press the **FWD/ACCEPT** key to move on.

Press **PRIME** to run the pump for the set time to check the dosage.

> Set the Pulse (ALL - 100) using the **UP** and **DOWN** keys. Press **FWD/ACCEPT** to select the displayed pulse.
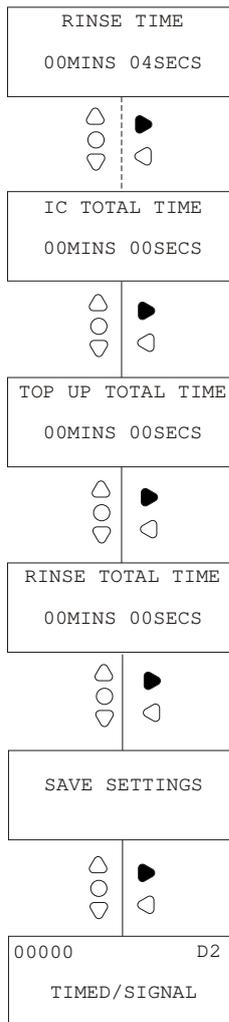
```
┌─────────────────────────┐
│       RINSE TIME        │
│                         │
│     00MINS 04SECS       │
└─────────────────────────┘

           △   ▶
           ○ ┊
           ▽   ◁

┌─────────────────────────┐
│     IC TOTAL TIME       │
│                         │
│     00MINS 00SECS       │
└─────────────────────────┘

           △   ▶
           ○
           ▽   ◁

┌─────────────────────────┐
│   TOP UP TOTAL TIME     │
│                         │
│     00MINS 00SECS       │
└─────────────────────────┘

           △   ▶
           ○
           ▽   ◁

┌─────────────────────────┐
│   RINSE TOTAL TIME      │
│                         │
│     00MINS 00SECS       │
└─────────────────────────┘

           △   ▶
           ○
           ▽   ◁

┌─────────────────────────┐
│     SAVE SETTINGS       │
│                         │
│                         │
└─────────────────────────┘

           △   ▶
           ○
           ▽   ◁

┌─────────────────────────┐
│  00000           D2     │
│                         │
│     TIMED/SIGNAL        │
└─────────────────────────┘
```

> Repeat for programming parameters of Rinse Pump

> If connected, repeat for programming parameters of Pump 3 (Note: The programming parameters for Pump 3 will only be displayed when it is connected).

Note:
It is possible to program Pump 3 to operate proportional to Pump 1 or Pump 2.

*To do this, press the **UP** and **DOWN** keys simultaneously key from the Run-time screen. Select Pump 1 or Pump 2 using the **UP** and **DOWN** keys and press the **FWD/ACCEPT** key to move on.*

Pump 3 will operate at the programmed speed whenever Pump 1 or Pump 2 is operating.

> After programming the parameters for each Pump, the Total Run-time counter for the Initial Charge will be displayed.

> On the Total Run-time screens, use the **UP** and **DOWN** keys to scroll between the Run-time and the Cycles for the displayed Pump.

> Press the **UP** and **DOWN** keys simultaneously to reset the displayed counter back to zero. (Note: The Run-time and Total Cycle counters of the relevant pump will both revert to zero when either is reset)

> Press **FWD/ACCEPT** to display the Run-time and Cycle information for the remaining Pumps.

> After the Run-time and Cycle information for all of the Pumps, the Save Settings screen will be displayed. Press **FWD/ACCEPT** on this screen to display the default screen and return to the units operating mode.

```
INITIAL DELAY          IC RUNTIME

03MINS 00SECS          00MINS 00SECS
```
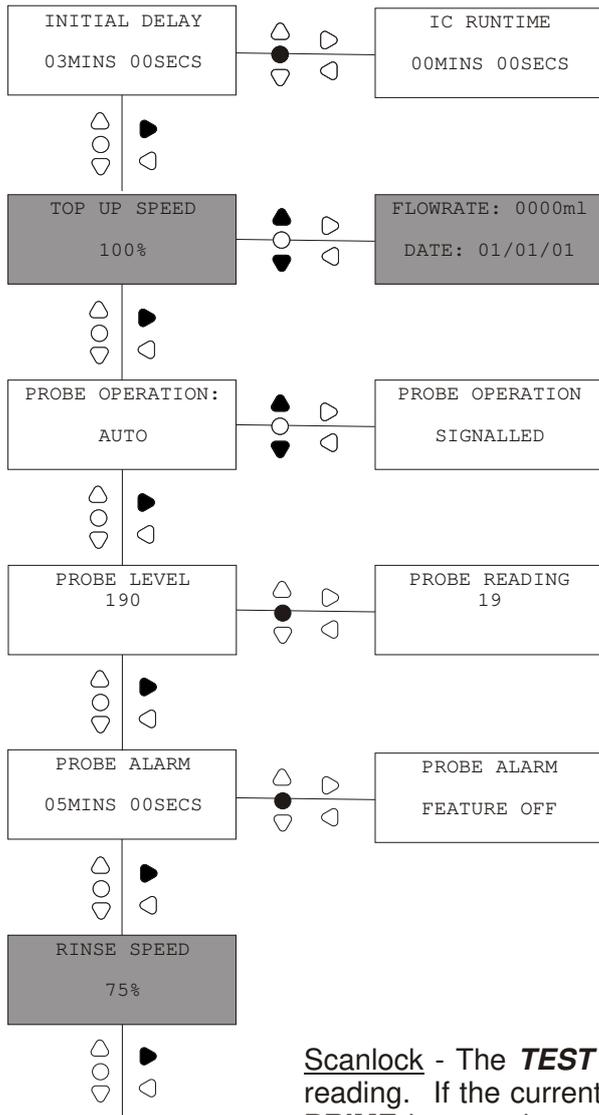
> Set the Initial Delay period using the **UP** and **DOWN** keys to select the required time and the **FWD/ACCEPT** key to move on.

When on Initial delay screen, press **PRIME** button to enable the inital charge run time screen, this will allow a signal to be applied to input 1 to trigger an initial charge.

```
TOP UP SPEED           FLOWRATE: 0000ml

100%                   DATE: 01/01/01
```

> Set the Speed (20% - 100%) for the Top up using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

```
PROBE OPERATION:       PROBE OPERATION

AUTO                   SIGNALLED
```

> Select the required Probe operation using the **UP** and **DOWN** keys to scroll through the options and the **FWD/ACCEPT** key to select.

AUTO - The Probe will initiate the Top up to operate if the concentration level falls below the programmed value when the unit is powered.

```
PROBE LEVEL            PROBE READING
190                    19
```

SIGNALLED - The Probe will initiate the Top up to operate if the concentration level falls below the programmed value when a signal is present on Input 2.

If a conductive probe is fitted.
> Set the Probe Concentration (00 - 250) using the **UP** and **DOWN** keys to select the required level. Conducted range of 0-8.5 ms. If an Inductive probe is fitted set the probe concentration from 0.000 ms to 200 ms.

```
PROBE ALARM            PROBE ALARM

05MINS 00SECS          FEATURE OFF
```

```
RINSE SPEED

75%
```

Scanlock - The **TEST** key can be pressed on this screen to display the current probe reading. If the current probe reading is correct for the required concentration, then the **PRIME** key can be pressed and held for 2 seconds to store this value.This is how we recomend the conductive probe is set up.
Tthe inductive probe will also display the tank temperature

Press the **FWD/ACCEPT** key to move on.

```
ALARM DELAY

ELAPSED
```

> Set the Alarm Delay (00:00 - 99:59 mins/secs) for the Probe using the **UP** and **DOWN** keys to select and press the **FWD/ACCEPT** key to move on.

Pressing the **PRIME** button on the probe alarm screen disables the alarm.
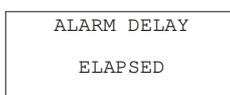
> Set the Speed (20% - 100%) for Rinse using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

> When on the speed screen, press **TEST** to run the Pump for 1 minute at the displayed speed to check the flowrate. Press **PRIME** to enter the flowrate and the date of measurement. Press **FWD/ACCEPT** to select the displayed speed.

Shaded grey screens are not shown in quick set up mode. All screens are shown on

```
┌─────────────────────┐
│   RINSE ON TIME     │
│                     │
│   00MINS 01SECS     │
└─────────────────────┘
```
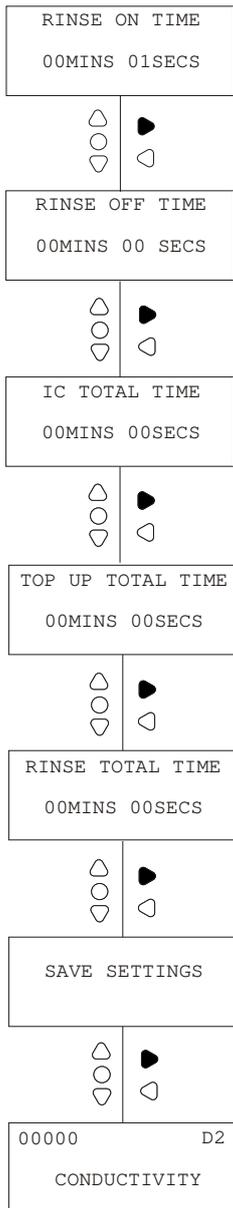
> Set the Run-time (00:00 - 99:59 mins/secs) for the Rinse using the **UP** and **DOWN** keys to select and press the **FWD/ACCEPT** key to move on.

```
┌─────────────────────┐
│   RINSE OFF TIME    │
│                     │
│   00MINS 00 SECS    │
└─────────────────────┘
```

> If connected, repeat for programming parameters of Pump 3 (Note: The programming parameters for Pump 3 will only be displayed when it is connected).

Note:
It is possible to program Pump 3 to operate proportional to Pump 1 or Pump 2.

```
┌─────────────────────┐
│   IC TOTAL TIME     │
│                     │
│   00MINS 00SECS     │
└─────────────────────┘
```

*To do this, press the **UP** and **DOWN** keys simultaneously key from the Run-time screen. Select Pump 1 or Pump 2 using the **UP** and **DOWN** keys and press the **FWD/ACCEPT** key to move on.*

```
┌─────────────────────┐
│  TOP UP TOTAL TIME  │
│                     │
│   00MINS 00SECS     │
└─────────────────────┘
```

Pump 3 will operate at the programmed speed whenever Pump 1 or Pump 2 is operating.

> After programming the parameters for each Pump, the Run-time counter for the Top up will be displayed.

```
┌─────────────────────┐
│  RINSE TOTAL TIME   │
│                     │
│   00MINS 00SECS     │
└─────────────────────┘
```

> Press the **UP** and **DOWN** keys simultaneously to reset the displayed counter back to zero.

> Press **FWD/ACCEPT** to display the Run-time information for the remaining Pumps.

```
┌─────────────────────┐
│   SAVE SETTINGS     │
│                     │
└─────────────────────┘
```

> After the Total Run-time information for all of the Pumps, the Save Settings screen will be displayed. Press **FWD/ACCEPT** on this screen to display the default screen and return to the units operating mode.

```
┌─────────────────────┐
│ 00000          D2   │
│                     │
│    CONDUCTIVITY     │
└─────────────────────┘
```

```
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│  INITIAL CHARGE     │      │  INITIAL CHARGE     │      │  INITIAL CHARGE:    │
│     POWER UP        │      │     SIGNALLED       │      │       OFF           │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
```

Shaded grey screens are not shown in quick set up mode. All screens are shown on advanced set up mode.

```
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│     IC SPEED        │      │  IC SIGNAL ACCEPT   │      │  INITIAL CHARGE:    │
│       100%          │      │  00MINS 30SECS      │      │       OFF           │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
```

> Select the required Initial Charge operation using the **UP** and **DOWN** keys to scroll through the options and the **FWD/ACCEPT** key to select.

```
┌─────────────────────┐      ┌─────────────────────┐
│    IC RUN TIME      │      │     IC SPEED        │
│   01MINS 00SECS     │      │       100%          │
└─────────────────────┘      └─────────────────────┘
```

POWER UP - The Initial Charge will operate once, when power is applied to the unit.

```
┌─────────────────────┐      ┌─────────────────────┐
│   IC DELAY TIME     │      │  IC CHARGE RUN TIME │
│   05MINS 00SECS     │      │   00MINS 00SECS     │
└─────────────────────┘      └─────────────────────┘
```
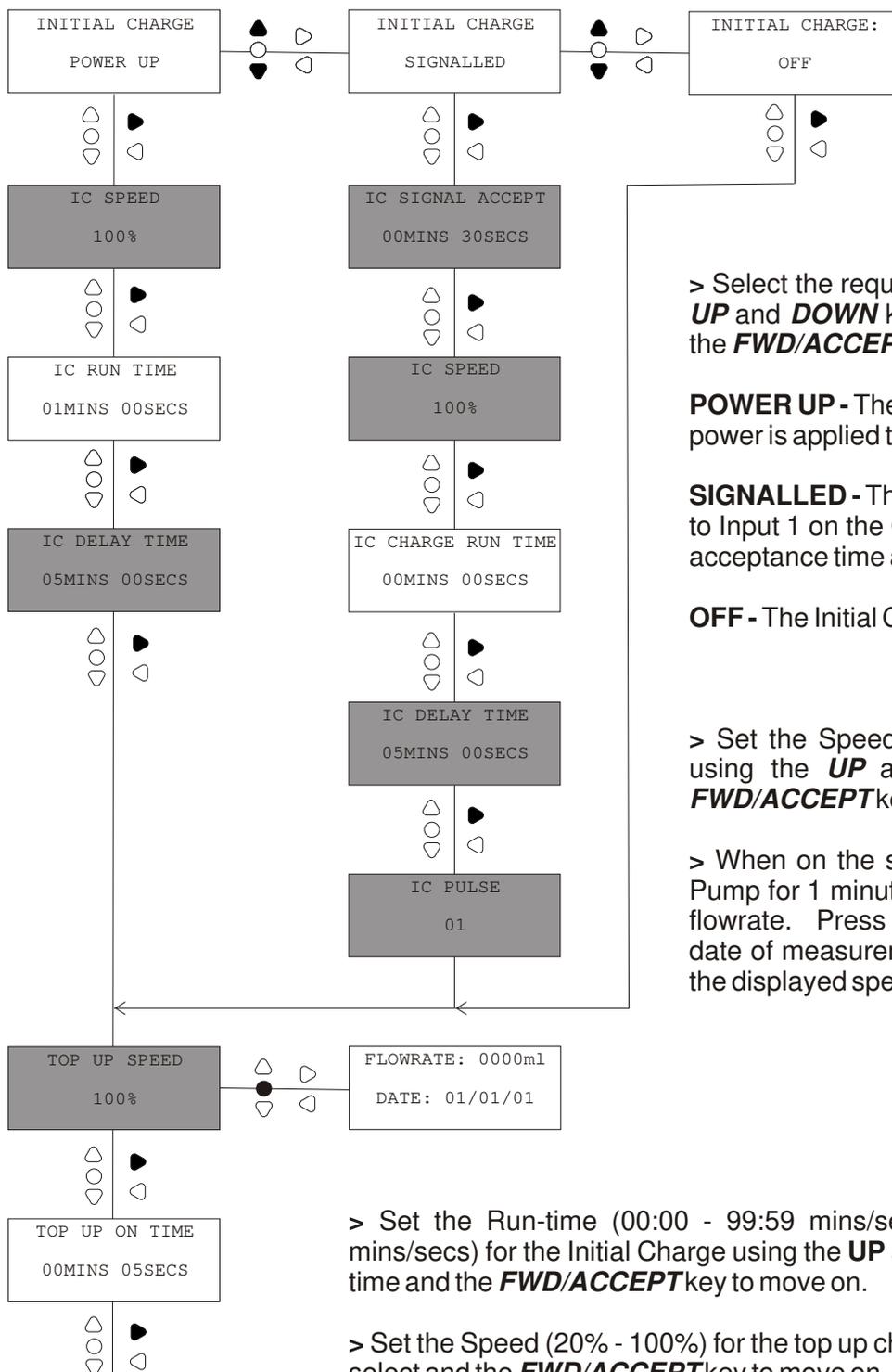
SIGNALLED - The Initial Charge will operate on a signal to Input 1 on the Controller board, in this mode a signal acceptance time and pulse can be set

```
                              ┌─────────────────────┐
                              │   IC DELAY TIME     │
                              │   05MINS 00SECS     │
                              └─────────────────────┘
```

OFF - The Initial Charge will not operate.

```
                              ┌─────────────────────┐
                              │     IC PULSE        │
                              │       01            │
                              └─────────────────────┘
```

> Set the Speed (20% - 100%) for the Initial charge using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

> When on the speed screen, press **TEST** to run the Pump for 1 minute at the displayed speed to check the flowrate. Press **PRIME** to enter the flowrate and the date of measurement. Press **FWD/ACCEPT** to select the displayed speed.

```
┌─────────────────────┐      ┌─────────────────────┐
│   TOP UP SPEED      │      │ FLOWRATE: 0000ml    │
│       100%          │      │  DATE: 01/01/01     │
└─────────────────────┘      └─────────────────────┘
```

```
┌─────────────────────┐
│   TOP UP ON TIME    │
│   00MINS 05SECS     │
└─────────────────────┘
```

> Set the Run-time (00:00 - 99:59 mins/secs) and Delay time (00:00 - 99:59 mins/secs) for the Initial Charge using the **UP** and **DOWN** keys to select the required time and the **FWD/ACCEPT** key to move on.

> Set the Speed (20% - 100%) for the top up charge using the **UP** and **DOWN** keys to select and the **FWD/ACCEPT** key to move on.

> Set the On-time (00:00 - 99:59 mins/secs) for Pump 1 using the **UP** and **DOWN** keys to select and press the **FWD/ACCEPT** key to move on.

Note:
To run as a Power and Run unit set the off time to zero.

```
┌─────────────────────┐
│   TOP UP PULSE      │
│                     │
│        01           │
└─────────────────────┘
         △  ▶
         ○
         ▽  ◁
┌─────────────────────┐
│  TOP UP OFF TIME    │
│                     │
│   01MINS 00SECS     │
└─────────────────────┘
         △  ▶
         ○
         ▽  ◁
┌─────────────────────┐
│   RINSE ON TIME     │
│                     │
│   00MINS 01SECS     │
└─────────────────────┘
```

```
┌─────────────────────┐          ┌─────────────────────┐
│   IC TOTAL TIME     │  ▲  ▷     │     IC CYCLES       │
│                     │  ○        │                     │
│   00MINS 00SECS     │  ▼  ◁     │       00000         │
└─────────────────────┘          └─────────────────────┘
         △  ▶
         ○
         ▽  ◁
┌─────────────────────┐
│  TOP UP TOTAL TIME  │
│                     │
│   00MINS 00SECS     │
└─────────────────────┘
         △  ▶
         ○
         ▽  ◁
┌─────────────────────┐
│   SAVE SETTINGS     │
│                     │
└─────────────────────┘
         △  ▶
         ○
         ▽  ◁
┌─────────────────────┐
│  00000         D2   │
│       CYCLIC        │
└─────────────────────┘
```
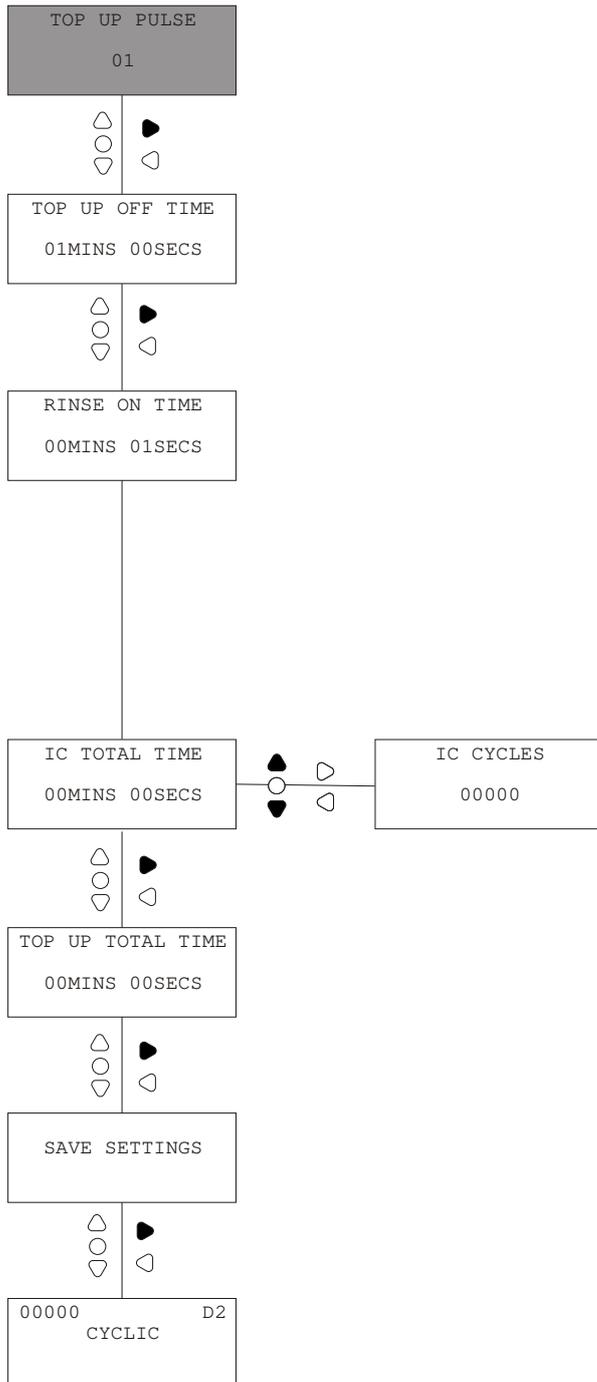
> Set the Off-time (00:00 - 99:59 mins/secs) for the Top up using the **UP** and **DOWN** keys to select and press the **FWD/ACCEPT** key to move on.

> Repeat for programming parameters of Rinse pump.

> If connected, repeat for programming parameters of Pump 3 (Note: The programming parameters for Pump 3 will only be displayed when it is connected).

Note:
It is possible to program Pump 3 to operate proportional to Pump 1 or Pump 2.

*To do this, press the **UP** and **DOWN** keys simultaneously key from the Run-time screen. Select Pump 1 or Pump 2 using the **UP** and **DOWN** keys and press the **FWD/ACCEPT** key to move on.*

Pump 3 will operate at the programmed speed whenever Pump 1 or Pump 2 is operating.

> After programming the parameters for each Pump, the Run-time counter for the Initial Charge will be displayed.

> On the Total Run-time screen for the Initial Charge, use the **UP** and **DOWN** keys to scroll between the Run-time and the Total Cycles (the Total Cycles screen is only available for the Initial Charge).

> Press the **UP** and **DOWN** keys simultaneously to reset the displayed counter back to zero (Note: The Total Run-time and Total Cycle counters of the relevant Pump will both revert to zero when either is reset).

> Press **FWD/ACCEPT** to display the Run-time information for the remaining Pumps

> After the Run-time information for all of the Pumps, the Save Settings screen will be displayed. Press **FWD/ACCEPT** on this screen to display the default screen and return to the units operating mode.

The Pumps are Primed from the Keypad. Press the **PRIME** key to display the Prime Mode screen.

From this screen, press and hold the **PRIME** key to prime pump 1. Press the **UP** or **DOWN** key to select pump 2 and hold the **PRIME** key to prime pump 2. The screen will display the pump number whilst it is Priming.

Press the **BACK** key to return to the default screen. (The unit will return to the default screen if a key is not pressed for 10 seconds)

```
00000        D2            PRIME MODE
TIMED/SIGNAL               PRIME PUMP 1

PRIME MODE                 PRIME MODE
PRIME PUMP 2               PRIMING PUMP 2

PRIME MODE                 00000        D2
PRIME PUMP 2               TIMED/SIGNAL
```
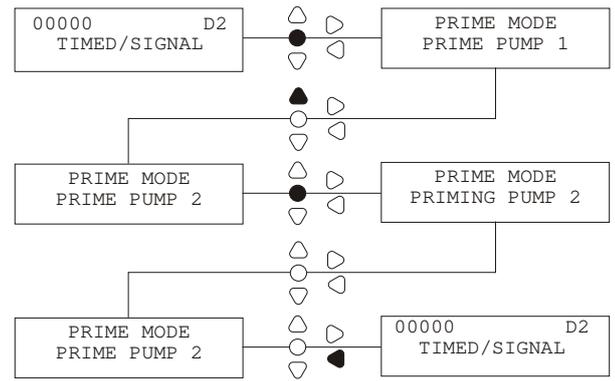
STOPPING THE PUMPS

The Pumps can be stopped from the Keypad. Press the **PRIME** key to display the Prime Mode screen.

From this screen, press the **FWD/ACCEPT** key to enter Pump Stop Mode. The screen will display the Pumps as ON or OFF.

Press the **UP** or **DOWN** key to move pump 1 from On to Off. To move to Pump 2 press the **FWD/ACCEPT** key. Again press the **UP** or **DOWN** key to stop Pump 2. Press the **FWD/ACCEPT** key to return to the default screen. (The unit will return to the default screen if a key is not pressed for 10 seconds)

Any pumps that are OFF will be displayed, flashing, at the bottom of the default screen.

```
00000        D2            PRIME MODE
TIMED/SIGNAL               PRIME PUMP 1

PUMPS ON    2              PUMPS ON    -2
PUMPS OFF   --             PUMPS OFF   1-

PUMPS ON    -              PUMPS ON    -
PUMPS OFF   1-             PUMPS OFF   12

00000        D2
TIMED/SIGNAL
```
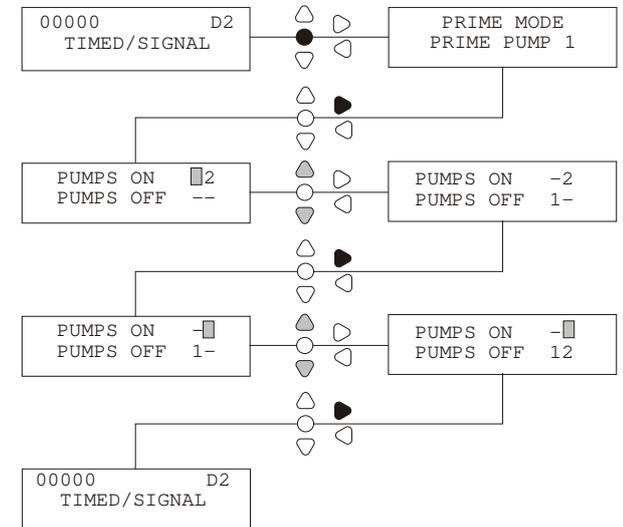
LANGUAGE SELECTION

It is possible to select the displayed language as English, French, German, Spanish, Dutch, Polish, Czech, Italian or American.

From the default screen, press and hold the **BACK** key for 2 seconds. This will display the access code screen. Enter the correct four digit Access Code using the **UP** and **DOWN** keys to select a number and the **FWD/ACCEPT** key to move on.

Use the **UP** and **DOWN** keys to scroll through the language options. Press the **FWD/ACCEPT** key to select the displayed language.

```
00000        D2            ACCESS CODE
TIMED/SIGNAL               ----

ACCESS CODE                ACCESS CODE
1-                         1111
```

```
ITALIANO      AMERICAN      ENGLISH       FRANCAIS

CESKY                                                 ESPANOL

POLSKI        NEDERLAND     DEUTSCH
```
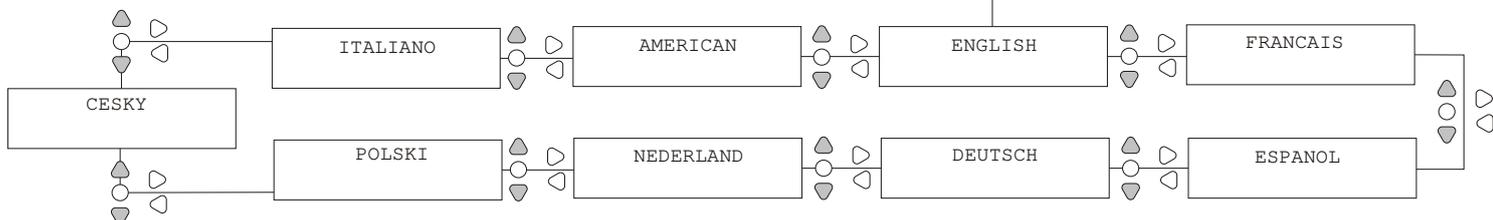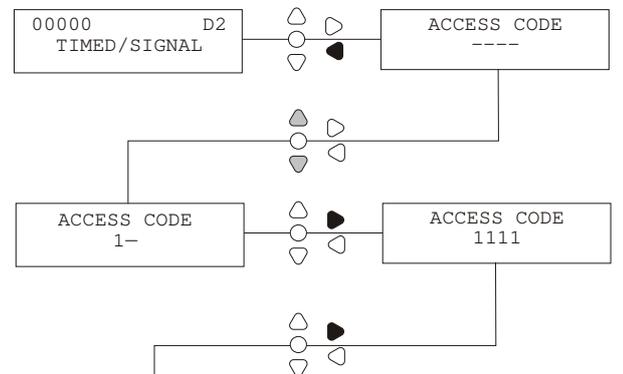
VIEW MODE

If you wish to view the Program Settings and Cycle Counters without editing them, this can be done through the VIEW MODE.

From the default screen, press the **FWD/ACCEPT** key, it will change to the ACCESS code screen, press**FWD/ACCEPT** key again to enter VIEW MODE.

Use the **FWD/ACCEPT** key to scroll through the Settings and Cycle Counters.

Note:
This feature can be disabled (see below).

```
┌──────────────────┐            ┌──────────────────┐
│ 00000        D2  │            │   ACCESS CODE    │
│                  │            │                  │
│ TIMED / SIGNAL   │            │      ____        │
└──────────────────┘            └──────────────────┘

┌──────────────────┐            ┌──────────────────┐
│   ENTER QUICK    │            │  ENTER ADVANCED  │
│                  │            │                  │
│   VIEW MODE      │            │    VIEW MODE     │
└──────────────────┘            └──────────────────┘
```
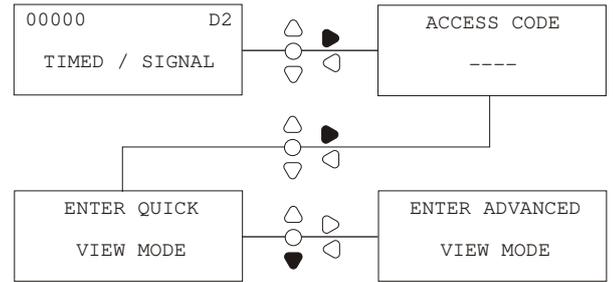
DISABLE MODE (PUMP STOP, PRIME, VIEW)

When on the default screen press **FWD/ACCEPT** key to show the Access code screen, then press PRIME to show the ENABLE MODE PIN screen,
Input the security access code as normal.
The PUMP STOP - DISABLE screen will be shown.

To disable the PUMP STOP mode:

From the PUMP STOP - DISABLE screen, Use the **UP/DOWN** keys to ENABLE or DISABLE the pump stop mode.
Press the **FWD/ACCEPT** key to confirm your selection and move on to the PRIME - DISABLE screen.

To disable the PRIME mode:

From the PRIME - DISABLE screen, Use the **UP/DOWN** keys to ENABLE or DISABLE the prime mode.
Press the **FWD/ACCEPT** key to confirm your selection and move on to the VIEW MODE - DISABLE screen.

To disable the VIEW mode:

From the VIEW MODE - DISABLE screen, Use the **UP/DOWN** keys to ENABLE or DISABLE the view mode.
Press the **FWD/ACCEPT** key to confirm your selection and move back to the TEST MODE screen.

Signal Acceptance - Length of time that a signal must be present on an Input before it is acknowledged. 1 second, not adjustable.

Run-Time - Adjustable time period for which a pump will operate on acceptance of a trigger signal.

*Speed -* Adjustable rotation rate at which each pump will operate.

Pulse - Signal number that a pump is to operate on. Pulse counter returns to zero after the operation of the pump (Example: if pulse is set to '02' then the associated pump will operate on every second signal).

Cycle Counters - Provides a record of the number of cycles and length of time that has been completed by each pump.

Prime - Run the pump to fill the suction and delivery tubes.

Pump Stop - Switch the pumps off in case of failure and prevent operation during maintenance.

DEFAULT DISPLAY SCREENS
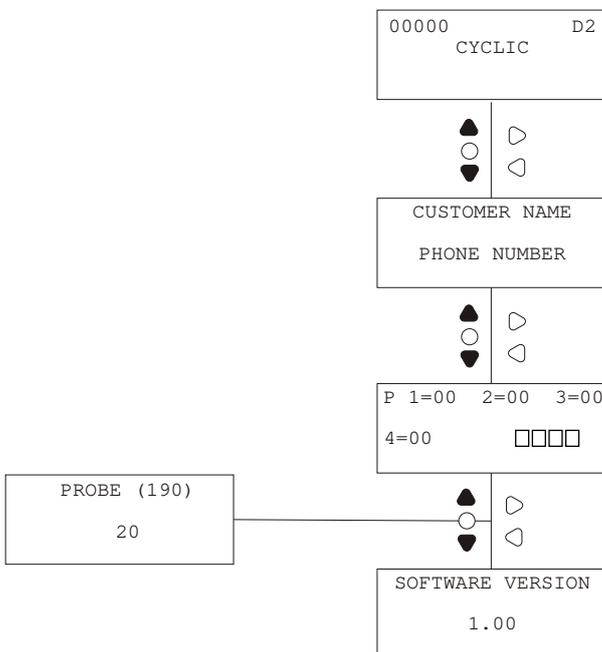
Unit information and the signal test screen can be viewed by pressing *UP* or *Down* from the default screen.

The unit will stay on the selected screen when power cycled.

Pulse test screen:
The screen will also show the unit receiving signals in "real time", via the 4 cursors along the bottom of the screen, which will illuminate when any signal is present.
This saves the engineer from having to use a voltmeter to check each input.

Note:
Probe screen is only shown in Conductivity mode.

Power Supply	Voltage	100V to 240V AC
	Frequency	50 - 60Hz
	Current	@100V - 0.44A
		@240V 0.15A
	Power	40W
Fusing		Resettable 0.55A
Motor		Brushless - 24V DC, 600mA
Pump		Maximum 6.4mm Silicone - 350ml/min, 3mm Norprene - 35ml/min at 100%
		Minimum 3mm Norprene - 3.5ml/min at 20%
		(Flowrate taken using water)
Enclosure		GFPP -IP 44
Weight (approx.)		2.1kg
Approvals		EMC 89/336/EEC - EN61000-6-2:2005 & EN61000-6-3:2007
		LVD 72/23/EEC - EN60335-1:2002+A2:2006
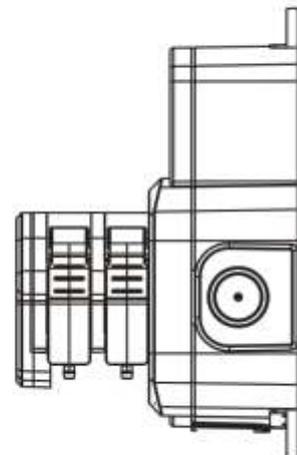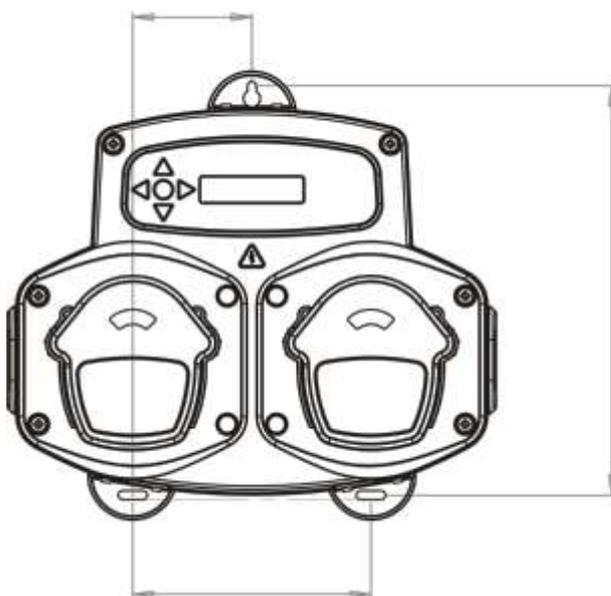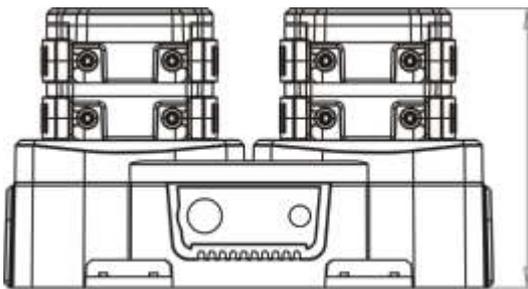
Power Supply	Voltage		100V - 240V AC
	Frequency		50 - 60Hz
	Current @ 240V	Logic	WP1 - 0.16A
			WP2/H - 0.32A
			WP3/HH - 0.48A
	Power	Logic	WP1 - 36W
			WP2/H - 72W
			WP3/HH - 108W
Fusing			Resettable 0.55A
Motor			Brushless - 24V DC, 600mA
Pump			9.5mm Silicone - 1000ml/min
			(Flowrate taken using water at 100% speed)
Enclosure			GFPP - IP 44
Weight (approx.)	Logic	WP1 - 1.6kg	WP2/H - 2.8kg	WP3/HH - 4.0kg
Approvals			EMC 89/336/EEC - EN61000-6-2:2005 & EN61000-6-3:2007
			LVD 72/23/EEC - EN60335-1:2002+A2:2006

WEE DIRECTIVE

GB
IRL
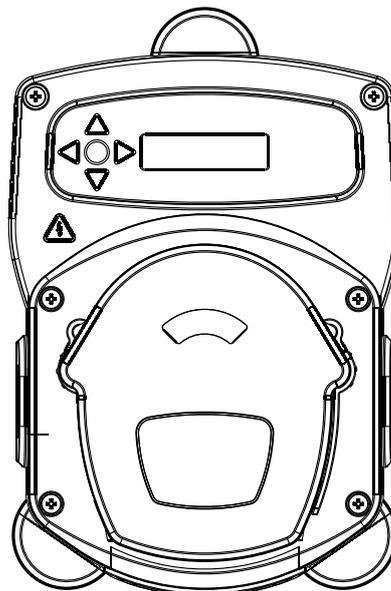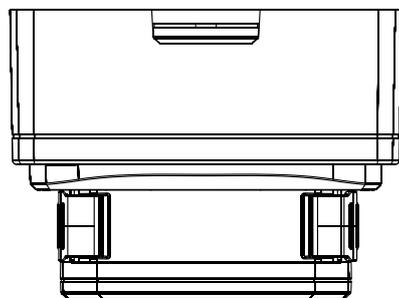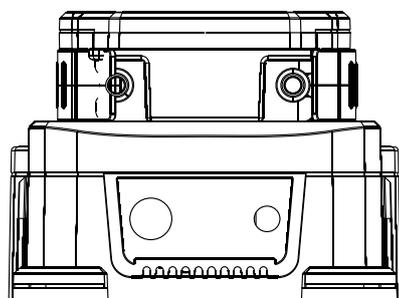
Environment protection first !
Your appliance contains valuable materials which can be recovered or recycled.

Leave it at a local civic waste collection point.

F

Participons à la protection de L'environnement
Votre appareil contient de nombreux matériaux valorisables ou recyclables.

Confiez celui-ci clans un point de collecte ou à défaut dans us centre service agréé pour clue son traitement soit effectué.

D
A

Schützen Sie die Umwelt !
Ihr Gerät enthält mehrere unterschiedliche, wiederverwertbare Wertstoffe.

Bitte geben Sie Ihr Gerät zum Entsorgen nicht in den Hausmüll, sondern bringen Sie es zu einer speziellen Entsorgungsstelle für Elektrokleingeräte (Wertstoffhof).

E

ii Participe en la conservación del medio ambiente !!
Su electrodoméstico contiene materiales recuperables y/o reciclables.

Entréguelo al final de su vida útil, en un Centro de Recogida Especifico o en uno de nuestros Servicios Of iciales Post Venta donde será tratado de forma adecuada.

I

Partecipiamo alla protezione dell'ambiente
Il vostro apparecchio è composto da diversi materiali che possono essere riciclati.

Lasciatelo in un punto di raccolta o presso un Centro Assistenza Autorizzato.

NL

Wees vriendelijk voor het milieu !
i Uw apparaat bevat materialen die geschikt zijn voor hergebruik.

Lever het in bij het milieustation in uw gemeente of bij onze technische dienst.

PL

Bierzmy czynny udzial w ochronie srodowiska !
Twoje urzadzenie jest zbudowane z materialów, które moga byc poddane ponownemu przetwarzaniu lub recyklingowi.

W tym celu nalezy je dostarczyc do wyznaczonego punktu zbiórki.

CZ

Podilejme se na ochrane životniho prostředi !
Váš přístroj obsahuje četné zhodnotitelné nebo recyklovatelné materiály.

Sveřte jej sbernému mistu nebo, neexistuje-li, smluvnimu servisnimu středisku, kde a nim bude naloženo odpovidajicim způsobem.

NOTES

BRIGHTWELL®

Guarantee
All Brightwell dispensers are guaranteed for two years from date of purchase against defects in materials and faulty workmanship. Peristaltic tubing is not guaranteed.

Chemical compatibility
We are pleased to offer advice on chemical compatibility, however our guarantee does not cover problems caused by chemical incompatibility.

Safety first
Always follow the chemical manufacturer's Health and Safety Instructions when using chemicals.

Technical and design specifications
Specifications within this catalogue are subject to alteration without notice.

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BS EN ISO 9000:2000
FM34956

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SUPPLIERS ASSOCIATION

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