

**Resan**



**WASHROOM CONTROL SYSTEM**  
4 CHANNEL



# **INSTALLATION GUIDE**

THOMAS  
DUDLEY



## IMPORTANT NOTES

Electrical installation of this product must be carried out and checked by a qualified electrician in accordance with IEE regulations.

During installation do not expose the electronics to fluids, dust, dirt or damp

No after-market parts/accesories to be used. Exclusive use of OEM supplied parts and accessories only.

### Control Unit

Must be installed vertically as pictured Pg3.

3 AMP input power protection required.

It is recommended that the mains power connection can be **easily** isolated.

Product for internal use ONLY.

Control unit to be installed into a dry environment away from direct risk of water ingress and leaks. MUST be installed outside of wet zones.

Control unit to be installed in an optimal location for keypad and display screen access.

Transient overvoltage category 2:

Temporary overvoltages occurring on the mains supply.

### IR Sensors

Sensors should be positioned to avoid nearby obstacles and risk of unintentional activation.

### WC Direct Flush Valve

Installation of an isolator valve to the supply pipework is recommended.

Fluid category 5 protection required (supplied).

If mains supply flow is insufficient (<100LPM), flush performance will be reduced.

### Wash Basin / Shower Valves

Installation of wash basin / shower solenoid valves to be positioned as close to outlet device as possible.

### General

Both direct flush WC and wash basin / shower solenoid valve electrical connections have no polarity so can be reversed.

## TECHNICAL DATA

### Control Unit

<b>Model No.</b>	RWC - 4C
<b>Mains Supply</b>	220 - 240V AC 50Hz Single Phase
<b>Power Output</b>	12V DC 30W Max.
<b>IP Rating</b>	IP44
<b>Battery</b>	CR2032 3V
<b>Application</b>	Indoor Only
<b>Altitude</b>	≤2000m
<b>Temperature</b>	5 - 40°C
<b>Relative Humidity</b>	80% up to 31°C decreasing linearly to 50% @ 40°C
<b>Mains Supply Voltage</b>	Fluctuations of up to ±10% of nominal  Transient Cat2
<b>Overvoltage</b>	Temporary overvoltages occurring on mains supply
<b>Pollution</b>	Pollution degree 2
<b>Unit Weight</b>	0.75 Kg

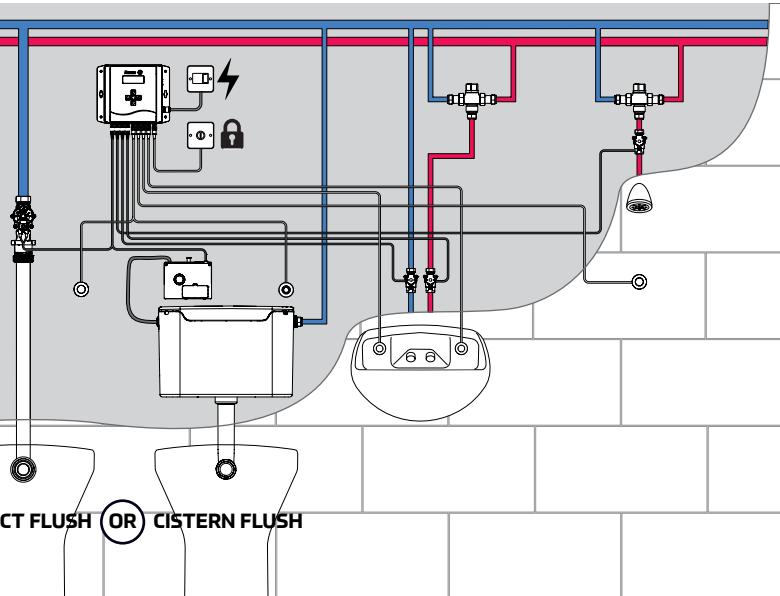
### WC Direct Flush Valve

<b>Valve Type</b>	12V DC 5.4W Normally closed, none latching
<b>Inlet Connection</b>	1" BSP Male
<b>Outlet Connection</b>	1½" BSP Male
<b>Operating Pressure</b>	0.5 - 10 bar
<b>Max Operating Temperature</b>	60°C
<b>WRAS Approved</b>	Yes

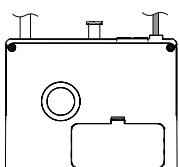
### Wash Basin / Shower Valve

<b>Valve Type</b>	12V DC 5.4W Normally closed, none latching
<b>Inlet Connection</b>	½" BSP Male
<b>Outlet Connection</b>	½" BSP Male
<b>Operating Pressure</b>	0.2 - 10 bar
<b>Max. Operating Temperature</b>	60°C
<b>WRAS Approved</b>	Yes
<b>WC Flush Interface</b>	
<b>Operating Voltage</b>	12V DC

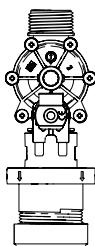
## TYPICAL INSTALLATION



### OUTPUT OPTIONS



**WC Cistern Flush Kit**  
WC Flush Interface  
4m Extension Cable  
*Cistern sold separately*



**WC Direct Flush Kit**  
Solenoid Valve  
DC Pipe Interrupter  
4m Output Cable  
Pan Connector  
Flush Pipe Cap Nut  
Sealing Washers



**Wash Basin / Shower Valve Kit**  
Solenoid Valve  
Strainer  
4m Output Cable  
15mm Compression fittings

### INPUT OPTIONS

#### IR Sensors



500mm Input Cable  
4m Extension Cable

#### Touch Buttons



500mm Input Cable  
4m Extension Cable

### OPTIONAL EXTRAS

#### Lock-out Switch



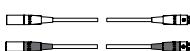
2x Keys  
4m Input Cable  
Flush-fit back box

#### Sensor / Button Mount Extension



1/2" BSP x 100mm  
1/2" BSP x 200mm

#### 4m Extension Cables

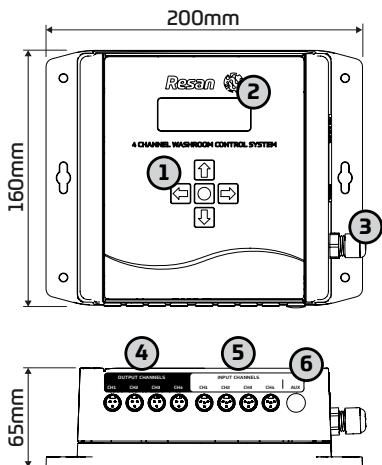


Input (White Plug)  
Output (Black Plug)

## CONTROL UNIT

4 CHANNEL

### REFERENCE INFORMATION



#### ① Menu Navigation Keys

- ↑ Up / down - Menu navigate
- ↗ Increase / decrease - Variables
- ↖ Back / previous - Menu navigate
- ↗ Forward - Menu navigate
- ☰ Enter - Expand menu

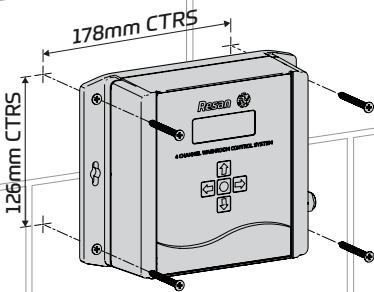
#### ② LCD Screen

- Cursor - Indicates menu position
- ✚ Expandable menu

#### ③ Mains Power Connection

- ④ Output Connections (3 Pin Black)
- ⑤ Input Connections (4 Pin White)
- ⑥ Auxiliary Connection (4 Pin White)

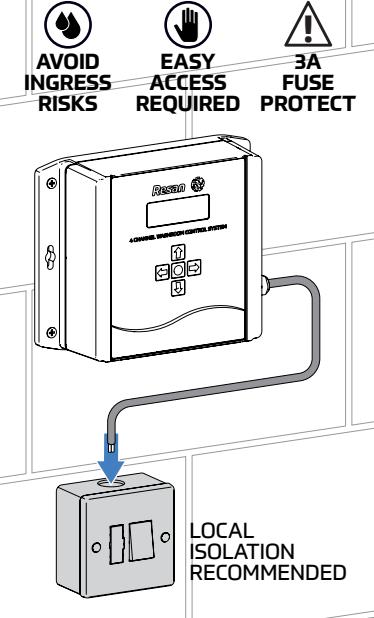
1



**FIXINGS NOT SUPPLIED**  
Select suitable fixings for the required application

**FIXING SUBSTRATE**  
Ensure the unit is level and mounted to a stable surface

2



## HOME SCREEN

RESAN

12:00

Mon 01 Jan

## SYSTEM MANAGEMENT

### HOME SCREEN OPTIONS

RESAN

12:00

Mon 01 Jan

- Hold (3s) to turn beeper on/off
- Hold to display last purge data

Last C1 TI:ME DA/TE  
Purge C2 TI:ME DA/TE  
C3 TI:ME DA/TE  
C4 TI:ME DA/TE

- Hold (3s) to display/hide system monitoring.

Ver 1.0.0 HH:MM:SS  
± ▲ ▾ ▲  
Ch1 Ch2 Ch3 Ch4  
0 0 0 0

- Input detection Lockout active
- Output active Purge active
- Cistern re-filling

## MAIN MENU

- Press for main menu

>+System settings  
>+Channel settings  
>+Manual Purge

## SYSTEM SETTINGS

Home > Main menu > System settings

>+Time and Date  
Remote Lockout No  
Exclusivity No  
Factory Reset

### TIME AND DATE

Set the time and date settings.

> Year 2023  
Date Mon-01-Jan  
Time 12:00 GMT

### REMOTE LOCKOUT

NO (Default).

YES Remote lockout key switch fitted.

>+Time and Date  
> Remote Lockout Yes  
Exclusivity No  
Factory Reset

### EXCLUSIVITY

NO Simultaneous channel usage.

YES One channel used at any one time.

>+Time and Date  
Remote Lockout No  
> Exclusivity Yes  
Factory Reset

### FACTORY RESET

>+Time and Date  
Remote Lockout No  
Exclusivity No  
> Factory Reset

Restore factory  
settings?  
<ENTER> for YES  
<BACK> for NO

YES Reset and return to home.

NO Abandon back to system settings.

## CHANNEL SETTINGS

Home > Main menu > Channel settings

### Default channels

>+Ch1	On	WC
+Ch2	On	Shower
+Ch3	On	Tap Cold
+Ch4	On	Tap Hot

Each channel can be set to on/off/timed and changed between; WC, Shower, Tap Cold or Tap Hot outputs using navigation keys.

Press  on any channel to enter the channel configuration menu.

### CHANNEL CONFIGURATION

Independantly configure the behaviour of each channel.

>+Channel Options
+Time Slots
+Purge Settings
+Lockout Settings

### CHANNEL OPTIONS

See the 'CHANNEL OPTIONS' section within the installation instructions of each output device.

### TIME SLOTS

Configure 24h on/off times for each channel across 8 available time slots.

> T1	00:00-06:00	On
T2	06:00-12:00	On
T3	12:00-18:00	On
T4	18:00-00:00	On
T5	00:00-00:00	Off
T6	00:00-00:00	Off
T7	00:00-00:00	Off
T8	00:00-00:00	Off

Default time programme shown.  
Channel must be set to 'Timed' in channel settings screen to activate.

>+Ch1	On	WC
+Ch2	Timed	Shower
+Ch3	On	Tap Cold
+Ch4	On	Tap Hot

## PURGE SETTINGS

Independantly configure the purge mode and timings for each channel.

> Auto Purge	Off
Idle Time	0 days
Duration	30 secs
+Auto Purge Times	

### Auto Purge

**OFF** No auto purge

**ON** Purge will activate at set 'auto purge times' every day.

### Idle Time (0 - 30 days)

Sets the delay between 'Auto Purge Time' purge activations.

### Duration (2 - 960 seconds)

Sets the duration of purge run time for the selected channel.

**Note:** WC Cistern channels do not include a purge duration, purge will operate one flush and fill cycle.

### Auto Purge Times

Sets the schedule of purge times for the selected channel.

> T1	00:00	Off
T2	03:00	Off
T3	06:00	Off
T4	09:00	Off
T5	12:00	On
T6	15:00	Off
T7	18:00	Off
T8	21:00	Off

Default time schedule shown.  
Purge mode must be set to 'ON' to activate set schedule.

### LOCKOUT SETTINGS

See next page...

## LOCKOUT SETTINGS

Independantly configure the lockout settings for each channel.

>Auto Lockout Off  
Activations 4  
Time Window 15 min  
Lock Period 30 min

### Auto Lockout

**OFF** (Default) No auto lockout active.  
**ON** Lockout active to current settings.

### Activations (1 - 250)

Sets the number of activations that the lockout feature can record before initiating lockout period.

### Time Window (1 - 240 minutes)

Sets the time window that the lockout feature will monitor for excess activations. Time will begin from the first triggered activation.

### Lock Period (1 - 240 minutes)

Sets the period of time that the channel will be locked for once the set number of 'activations' has occurred within the set 'time window'.

### Default Lockout Settings

Channel	Activations	Time Window	Lock Period
WC (Cistern)	3	15	30
WC (Direct)	3	15	30
Shower	4	15	30
Tap Cold	6	15	30
Tap Hot	6	15	30

## MANUAL PURGE

Home > Main menu > Manual Purge  
manual purge options...

Purge Selection

All Channels

Purge Selection

Ch? Channel Type

Use up/down to navigate through manual purge options; All channels, Ch1, Ch2, Ch3, Ch4.

Press enter to activate purge.  
Press any button to abort.

PURGE ACTIVE  
ANY BUTTON TO STOP  
Ch1 Ch2 Ch3 Ch4  
0 0 0 0

During purge sequence the timer will count down the set purge duration for each channel.

## SAVE SETTINGS

Navigate back to the home screen to save/abandon any changes. You will be prompted as follows...

Configuration  
has changed  
<ENTER> to Save  
<DOWN> to Abandon

Press down to abandon changes and return to home screen.

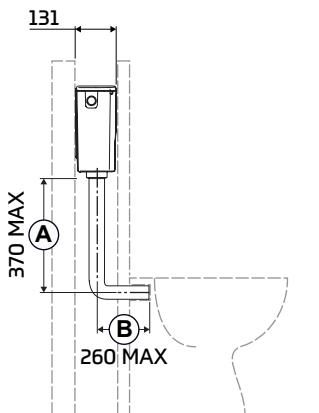
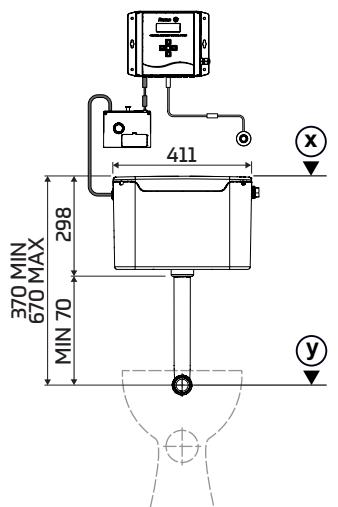
Press enter to save changes...

Configuration  
Saved !

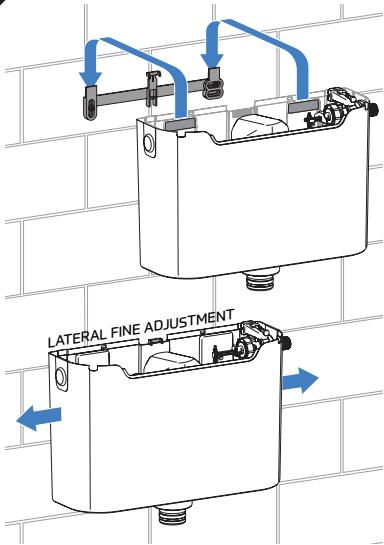
## OUTPUT

PNEUMATIC WC CISTERN

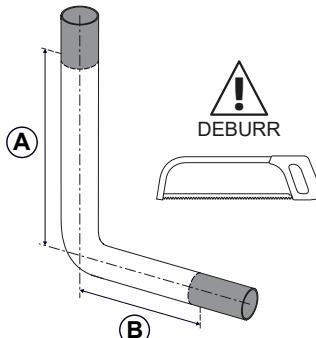
### REFERENCE INFORMATION



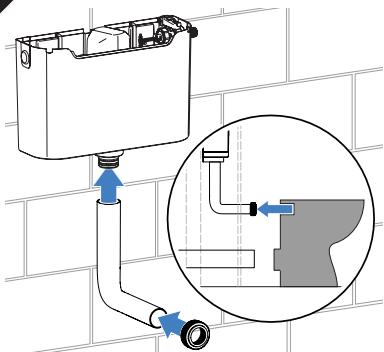
2



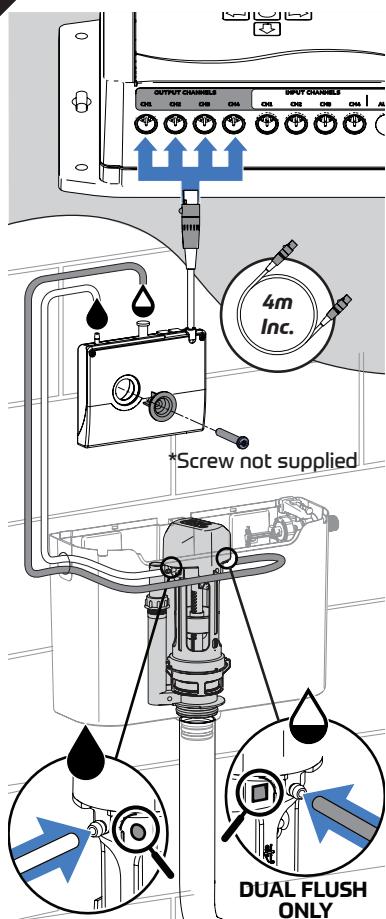
3



4



3



#### Default Channels

CH1	WC (Cistern)
CH2	Shower
CH3	Tap Cold
CH4	Tap Hot

4

#### CONFIGURE WC CISTERN CHANNEL

Home > Main menu > Channel settings

>+Ch1 On	WC
+Ch2 On	Shower
+Ch3 On	Tap Cold
+Ch4 On	Tap Hot

Set any channel to WC (Ch1 default).

Press  on any WC channel to enter the channel configuration menu.

+Channel Options  
 +Time Slots  
 +Purge Settings  
 +Lockout Settings

Select 'Channel Options'.

**Note:** See 'Channel Settings' section for information on Time Slots, Purge Settings, and Lockout Settings.

#### CHANNEL OPTIONS: WC CISTERN

Flush Type	Cistern
Dual Flush	No
Open Time	1.8 sec
Fill Time	30 sec

Set the flush type to 'Cistern' (Ch1 default) and configure the cistern flush options as desired.

#### WC Cistern Channel Options

Flush Type	CISTERN
Dual Flush	Yes / No
Open Time	1.8 - 2.5 secs
Fill Time	10 - 120 secs

#### DUAL FLUSH

**NO** Mono flush only.

**YES** Dual flush Active.

**IR Sensor:** Wave for full flush,  
Hold hand for reduced flush.

**Touch Button:** 1 press for full  
flush, 2x press for reduced flush.

#### OPEN TIME

Factory set to 1.8 secs. This  
setting should only be increased if  
troubleshooting advises to do so.

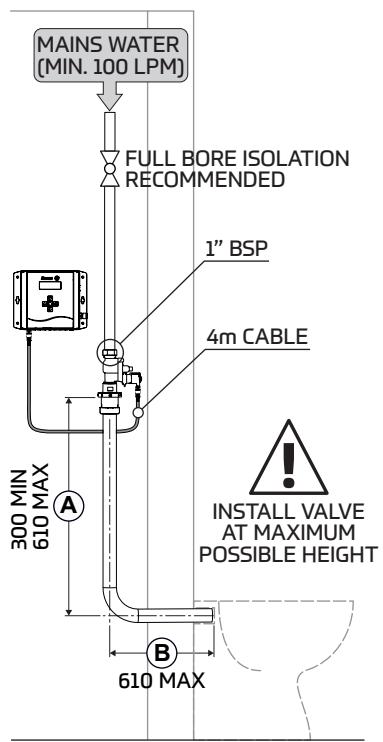
#### FILL TIME

Factory set to 30 secs. The IR sensor  
or Touch Button will remain inactive for  
this period to allow the cistern to refill.

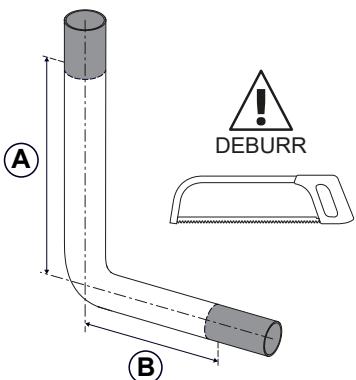
## OUTPUT

### DIRECT FLUSH VALVE

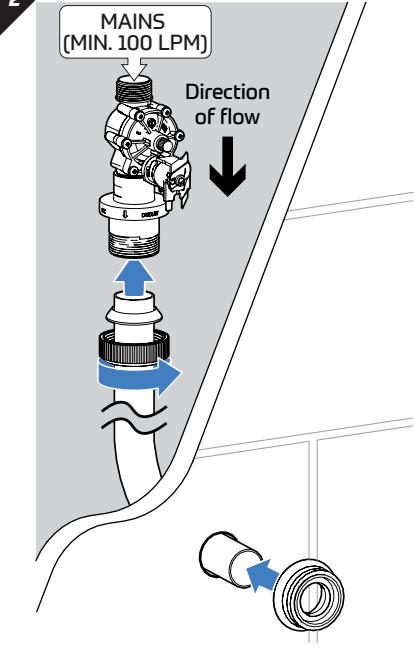
#### REFERENCE INFORMATION



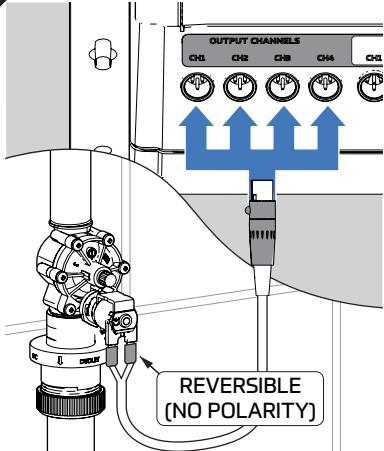
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2

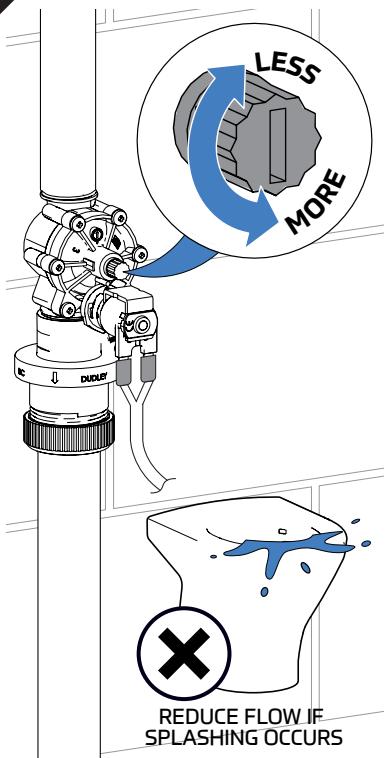


3



#### Default Channels

CH1	WC (Cistern)
CH2	Shower
CH3	Tap Cold
CH4	Tap Hot

**4****5**

## CONFIGURE WC DIRECT FLUSH CHANNEL

Home > Main menu > Channel settings

>+Ch1	On	WC
+Ch2	On	Shower
+Ch3	On	Tap Cold
+Ch4	On	Tap Hot

Set any channel to WC (Ch1 default).

Press  on any WC channel to enter the channel configuration menu.

>+Channel Options
+Time Slots
+Purge Settings
+Lockout Settings

Select 'Channel Options'.

**Note:** See 'Channel Settings' section for information on Time Slots, Purge Settings, and Lockout Settings.

## CHANNEL OPTIONS: WC DIRECT FLUSH

Flush Type	[Direct]
Dual Flush	No
Open Time	7.1 sec

Set the flush type to 'Direct' and configure the cistern flush options as desired.

### WC CISTERN CHANNEL OPTIONS

Flush Type	DIRECT
Dual Flush	Yes / No
Open Time	1 - 25 secs

### DUAL FLUSH

**NO** Mono flush only.

**YES** Dual flush Active.

**IR Sensor:** Wave for full flush, Hold hand for reduced flush.

**Touch Button:** 1 press for full flush, 2x press for reduced flush.

### OPEN TIME

Factory set to 7.1 secs to deliver a 6L full flush and a 4L reduced flush where dual flush is active.

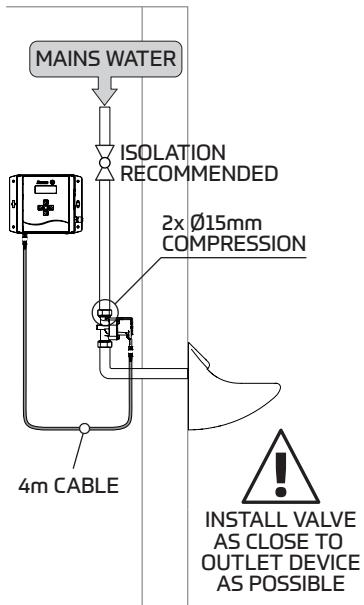
**Warning:** Changing the factory set open time may affect compliance to water regulations.

WARNING! CHANGING THIS VALUE MAY AFFECT COMPLIANCE TO WATER REGULATIONS
-------------------------------------------------------------------------

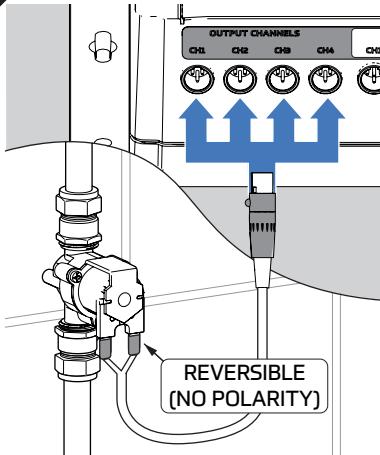
## OUTPUT

TAP / SHOWER VALVE

### REFERENCE INFORMATION



2



### Default Channels

CH1	WC (Cistern)
CH2	Shower
CH3	Tap Cold
CH4	Tap Hot

3

### CONFIGURE TAP / SHOWER VALVE

Home > Main menu > Channel settings

+Ch1 On	WC
>+Ch2 On	Shower
+Ch3 On	Tap Cold
+Ch4 On	Tap Hot

Set any channel to; Shower, Tap Cold, or Tap Hot. Default channels shown.

Press  on any Shower or Tap channel to enter the channel configuration menu.

Select 'Channel Options'.

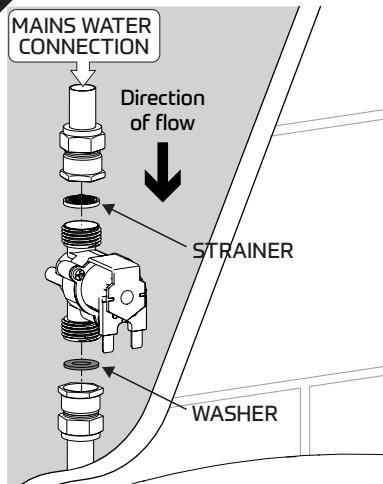
>Open Time 180 secs

**OPEN TIME (2 - 960 secs)**

**Tap:** factory setting 15 secs.

**Shower:** factory setting 180 secs.

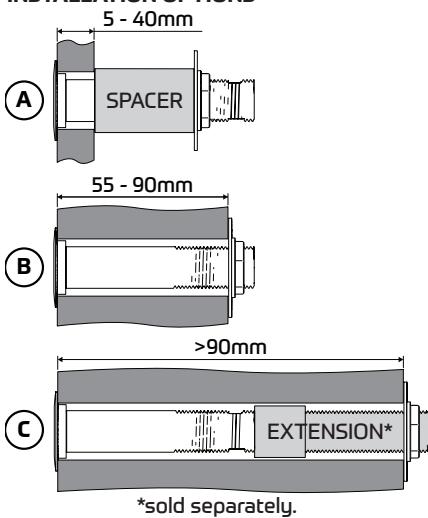
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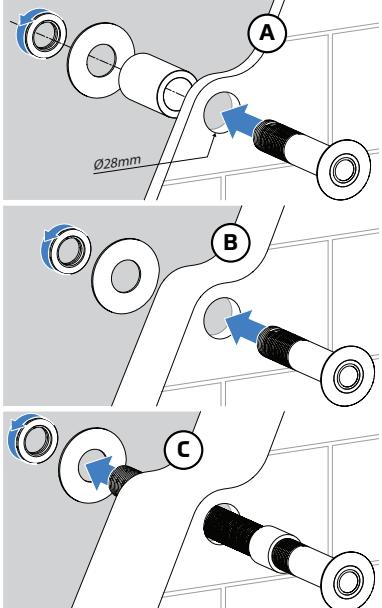
## INPUT

IR SENSOR & TOUCH BUTTONS

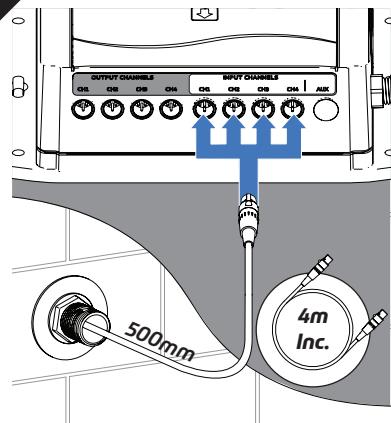
### INSTALLATION OPTIONS



**1**  Position IR sensors to avoid un-intentional activations



**2**



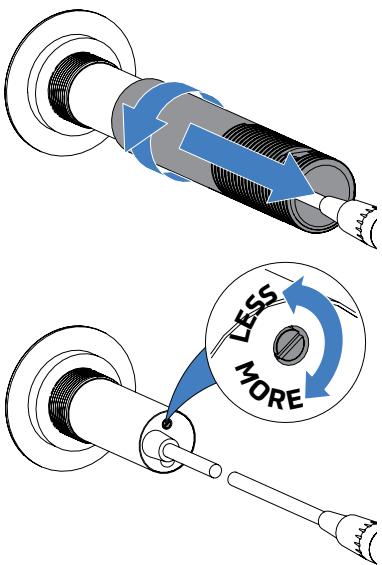
### Default Channels

<b>CH1</b>	WC (Cistern)
<b>CH2</b>	Shower
<b>CH3</b>	Tap Cold
<b>CH4</b>	Tap Hot

**3** **SENSOR RANGE ADJUST (IR ONLY)**

Adjustment Range: 20 - 250mm

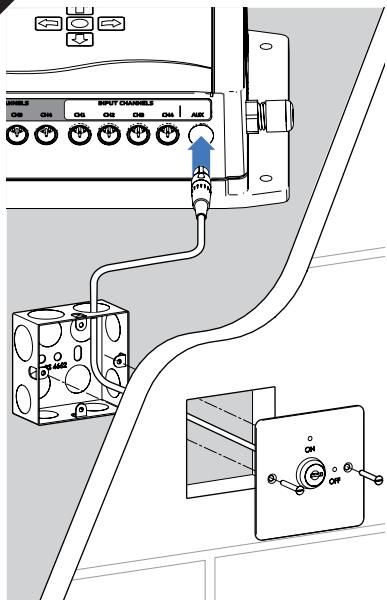
Factory Setting: 115 - 120mm



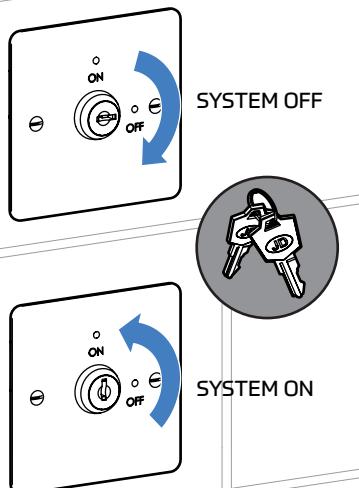
## AUXILIARY INPUT

### LOCK OUT KEY SWITCH

1



2



3

### ACTIVATE REMOTE LOCKOUT

Home > Main menu > System settings

+Time and Date  
> Remote Lockout Yes  
Exclusivity No  
Factory Reset

If the remote lockout key switch is installed, set Remote Lockout setting to 'Yes' to activate functionality of this device. Ensure settings are saved when returning to the home screen.

<b>TROUBLESHOOTING</b>	
<b>GENERAL</b>	
Display inactive	Check power supply
Menu navigation not working	Contact Thomas Dudley plumbing technical
Touch button/IR sensor not working	<p>Check all cable conectors are made correctly</p> <p>Check touch button/IR sensor is connected into the correct input channel</p>
Touch button not working	Ensure button is pressed firmly
IR sensor not working	Ensure hand activation is within the preset operating range (115 - 120mm)
<b>WC - CISTERN</b>	
Not flushing	<p>Check water supply</p> <p>Check all cable connections are made correctly</p> <p>Check all cables for damage</p> <p>Check input &amp; output connections are correct</p> <p>Check all air tube connections</p> <p>Check 'Cistern' is selected in...</p> <p>Channel Settings &gt; WC &gt; Channel Options</p>
Dual flush not working	<p>Check air tube connections are correct</p> <p>Check dual flush is selected in...</p> <p>Channel Settings &gt; WC &gt; Channel Options</p>
False activation	<p>Check location of IR sensor</p> <p>Possible interference from high visibility clothing</p>
<b>WC - DIRECT FLUSH</b>	
Not flushing	<p>Check water supply</p> <p>Check all cable connections are made correctly</p> <p>Check all cables for damage</p> <p>Check input &amp; output connections are correct</p> <p>Check 'Direct' is selected in...</p> <p>Channel Settings &gt; WC &gt; Channel Options</p>
Dual flush not working	<p>Check dual flush is selected in...</p> <p>Channel Settings &gt; WC &gt; Channel Options</p>
WC splashing	Adjust flow control screw on WC solenoid - See page 10
False activation	<p>Check location of IR sensor</p> <p>Possible interference from high visibility clothing</p>
<b>TAP / SHOWER</b>	
Not working	<p>Check water supply</p> <p>Check all cable connections are made correctly</p> <p>Check all cables for damage</p> <p>Check input &amp; output connections are correct</p> <p>Check correct orientation of valve</p>
<b>LOCK OUT KEY SWITCH</b>	
Not working	<p>Check all cable connections are made correctly</p> <p>Check all cables for damage</p> <p>Check key switch is connected to the AUX input channel</p> <p>Check that lock out feature is turned on in System Settings</p>

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Thomas Dudley Ltd reserves the right to alter, update or improve its product specification at any time without prior notice. This manual is specific to the product that it has been supplied with at the date of supply.

Without prejudice to any warranties in Thomas Dudley Ltd.'s terms and conditions of sale, any warranty will be invalidated if the equipment is installed or serviced by unqualified personnel. It is recommended that the electrical part of the installation be carried out by a qualified electrician in accordance with the latest electrical regulations. It is also recommended that any plumbing is carried out by a qualified plumber.

When installing the system, current national electrical regulations regarding the installation site must be complied with. It should be noted that the conformity referred to above and the performance of the product may be compromised by:

- Incorrect electrical power supply;
- Incorrect installation or incorrect, improper or otherwise inconsistent use of the instructions provided in the installation and user manual or in the instructions provided with the devices;
- Replacement of original parts or accessories with other types that have not been approved by Thomas Dudley Ltd, or performed by unauthorised personnel.

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## **END OF LIFE DISPOSAL**



The use of this crossed out wheeled bin logo indicates that this product needs to be disposed of separately to any other household waste.

It will be necessary to dispose of this product at your local community waste collection or recycling centre. In order to help preserve our environment we ask that you dispose of this product correctly.

Please contact your local city council for collection centre details.

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