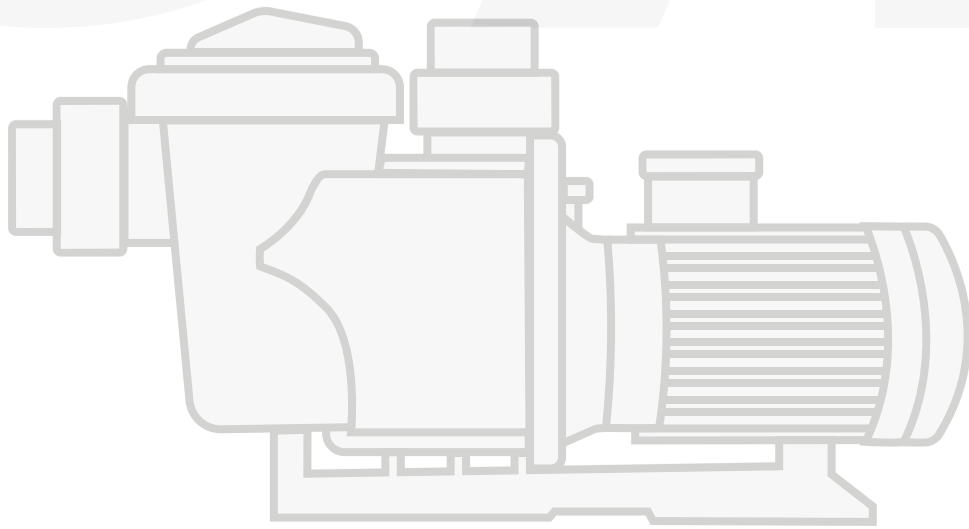




# PoolCop

 DRYDEN AQUA

# SPACE



## VARIABLE SPEED PUMPS



**USER GUIDE**

VSP50EN - V50 - MARCH 2026



# Variable Speed Pumps

## Update Listings

01/03/2026

1st Edition

# Variable Speed Pumps

## User Guide

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# 1 INTRODUCTION

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## 1 INTRODUCTION

### 1.1 FOREWORD

We maintain a policy of continuous research and development and therefore reserve the right to make changes and improvements to this manual and any of the products described.

This manual is subject to change without notice.

Any reference in this manual to “the pool owner” refers also to the owner of the product or products. The owner may appoint a representative to act on their behalf. The owner retains full and all responsibility for decisions made by and the actions of this representative.

### 1.2 NOTES, CAUTIONS, WARNINGS AND DEFINITIONS

Within the instruction manual some information is highlighted in the form of notes, cautions, warnings, etc. The following definitions apply throughout:



#### **NOTE**

A step, procedure, technique, etc. which is considered important or essential to emphasize.



#### **CAUTION**

A step, procedure, technique, etc. which could result in damage to equipment if not carefully followed.



#### **WARNING**

A step, procedure, or technique which could result in personal injury if not carefully followed.



#### **MANUAL**

Read the installation manual and all warnings in full.  
Follow all instructions.



#### **WEAR HAND PROTECTION**

Always wear correct chemical resistant hand protection when handling chemicals.



#### **EYE PROTECTION**

Always wear correct eye protection when handling chemicals.

# 1 INTRODUCTION

---

## 1.3 IMPORTANT INFORMATION, SAFETY NOTICES AND PRECAUTIONS



**WARNING:**

Read the security instructions attentively before any use. Instructions given are all important for your safety.

PoolCop and SPACE products are designed, engineered, and manufactured to the highest standards. To ensure optimal performance and longevity, it is essential to handle them with care. The following information will help you meet warranty requirements and enjoy years of reliable use.

**Always respect all National and Regional norms for electrical, hydraulic, chemical and swimming pool installation and operation. No responsibility will be accepted for installation or use of this product outside the norms.**

For the swimming pool to remain a place of pleasure and user-friendliness, it is necessary to take care of the safety of those who bathe and of the installation standards.

The electric connections must be carried out, according to the applicable norms, by a qualified person.



**WARNING:**

Keep the equipment and all associated equipment out of the reach of the general public and animals.



**WARNING:**

Inappropriate use can cause accidents, bodily injury, fire, electrocution, system failure and flooding.



**CAUTION:**

Keep the covers closed at all times when not interacting with the equipment to prevent inadvertent damage.



**CAUTION:**

Do not drop any objects into any openings of the equipment and the associated equipment as this could cause serious damage.



**CAUTION:**

This equipment and any associated equipment must be located in an area protected from the elements.



**CAUTION:**

The equipment is splash proof but must never be exposed to water or other liquids for extended periods. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.



**WARNING:**

The equipment should not be installed near flammable gas or products. In the event of the escape of gas or dangerous products, there is risk of fire and explosion.

# 1 INTRODUCTION

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**WARNING:**

Do not remove any of the protective covers on the equipment or the associated equipment. Touching parts inside these compartments could result in an electrical shock and/or damage to the system.



**CAUTION:**

Do not use harsh chemicals, solvents or detergents to clean the equipment. Wipe with a soft cloth, slightly dampened in a mild soap-and-water solution.



**WARNING:**

In case of malfunction or if an anomaly occurs (such as smoke or a burning smell from the unit), disconnect the power supply and contact the installer.



**CAUTION:**

Use only approved replacement parts. Unauthorized parts and/or modifications could damage the entire system and will void your warranty.



**CAUTION:**

Verify that any auxiliary equipment is correctly installed as per the manufacturer's instructions and is compatible with the equipment and installation.



**WARNING:**

Risk of electric shock.  
A dedicated GFCI circuit breaker must be installed by a licensed electrician.



**WARNING:**

Installation requires a properly protected power source.  
Refer to local regulations for ground fault protection.



**WARNING:**

Always mount products in a secure location that is protected from potential damage by moving objects.  
Never bury power cords.



**WARNING:**

Always disconnect power and ensure that the electrical current is shut off before servicing.



**WARNING:**

Any person using, adjusting, or monitoring the equipment must be at least 18 years of age and be familiar with these instructions and the contents of the instruction manual.



**WARNING:**

If the equipment is used for water treatment control, or to control any equipment that does not have no-flow protection, a water circulation flow detection sensor must be correctly installed and configured where required.

# 1 INTRODUCTION

---



**WARNING:**

Always take and record manual water chemistry readings in conformance with Health Department requirements. Although automated controllers are a great aid in maintaining healthy water quality, controllers are not a substitute for manual water testing with an accurate test kit.



**WARNING:**

Always read and become familiar with Material Safety Data Sheets (MSDS) and safe handling instructions for all chemicals used with the equipment.

## 1.6 DISPOSAL INFORMATION



If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

# 2 GENERAL INSTALLATION

---

## 2 GENERAL INSTALLATION

Variable and multi-speed pumps offer significant advantages in filtration performance and energy savings when paired with PoolCop or SPACE optimisations.

Programming the appropriate options for the specific pump make and model ensures precise control and maximises efficiency.

The integration of a PoolCop or SPACE unit with a variable speed pump provides the pool owner with enhanced filtration and energy optimisation. The result is excellent water quality, reduced chemical usage, and substantial cost savings.

PoolCop and SPACE units automatically manage the filtration schedule — determining when, how long, and at what speed the system operates — by linking pre-defined pump speeds to the filtration cycles.

- Higher flow rates can be scheduled during low energy tariff periods.
- Lower flow rates are used during peak energy cost periods.

When equipped with an automatic valve, the system triggers high-speed filter cleaning as needed to maintain top filtration efficiency. In addition, the unit automates other essential pool functions such as water level control, chemical treatment, and auxiliary equipment (lighting, cleaner, heating, etc.).



**IMPORTANT:**

**All PoolCop units must be equipped with an Edge Plus board to operate a variable speed pump.**

# 2 GENERAL INSTALLATION

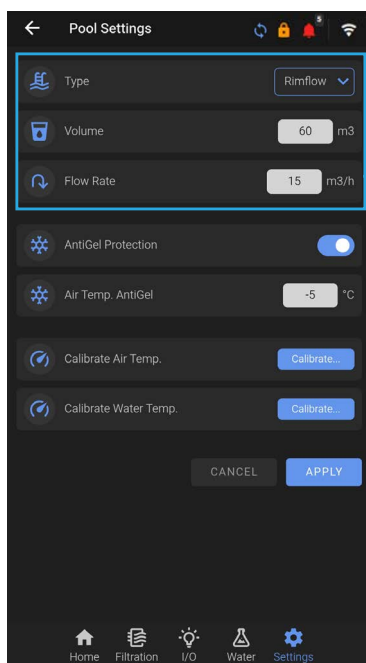
## 2.1 POOL DATA CONFIGURATION

PoolCop and SPACE use **Pool Volume** and **Flow Rates** in filtration duration calculations when Filtration Cycle 2 is in ECO + Mode:

- The exact flow rate can be measured over a 24-hour period with a clean filter and used for maximum accuracy.
- Estimated flow rates can be found using standard performance graphs supplied with the pump or obtained from the manufacturer.
- When different speeds are used for different filtration periods with variable or multi-speed pumps, estimate an average daily filtration flow rate.

This value is not exact, but performance is not significantly affected if conservative values are used; if in doubt, select a **lower** rate so that the system applies a longer daily filtration time, improving safety and pool reliability..

### POOL CONFIGURATION



- 1 **POOL TYPE:**  
Skimmer, Overflow or Spa.  
The Pool Type will have an impact on the unit is handling some features such as water level or suction valve.
- 2 **POOL VOLUME:**  
Pool Volume is important as it will be used for the calculation of the hydraulic coefficient impacting the ECO filtration mode and the duration of water treatments.
- 3 **FLOW RATE :**  
Flow rate is used for filtration duration calculations in ECO Mode.  
For optimal performance, either use a flow rate measured on a clean filter, the lowest nominal pump or filter flow rate minored by 20%, or, if using a variable speed pump, estimated average daily flow rate.

# 2 GENERAL INSTALLATION

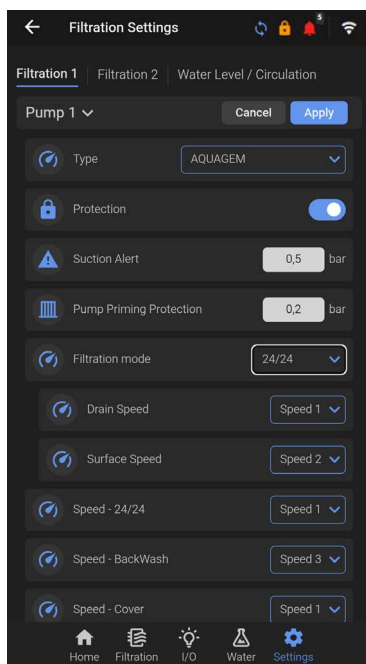
## 2.2 PUMP DATA CONFIGURATION

The correct variable speed pump type is selected in the **Filtration Settings Menu**.

Configuring Pump Protection allows the system to protect the equipment according to the pump priming settings and suction alert pressure thresholds.

*For guidance on how to define these parameters for your installation, refer to section 3 of this manual.*

### PUMP SETTINGS



#### PUMP TYPE:

Choose **NO PUMP**, **SINGLE SPEED** or **VARIABLE SPEED** pump type in the dropdown menu.

#### PROTECTION:

Setting PUMP PROTECTION will effectively protect the pool equipment in case of pump failure, or alert if the pressure is lower than usual and the system requires attention (See "4.6.2 Assessing Pressure Parameters"):

- **PUMP PRIMING:**

Pressure below which the Pump is considered as not primed.

Will stop all water treatment or filtration slaved equipment and induce a "No pressure" alert. (ERROR ALERT)

If Protection is set, will stop the pump.

Should be set approx. 0.2 bar above static pressure (pressure when pump stopped) but below pressure at lowest speed.

- **SUCTION ALERT:**

If protection is set, will induce a "Low Pressure" alert to indicate potential clogging of skimmer or pump baskets. Will not impact filtration functioning. (WARNING ALERT)

Should be set above Pump Priming pressure but below pressure at lowest speed.

**ERROR MESSAGES** can occur if pressure settings are incoherent (ex: Pump priming > Suction alert).

**Static Pressure**  
(pump stopped)



**Pump Priming**



**Suction Alert**



**Pressure at lowest speed**

# 2 GENERAL INSTALLATION



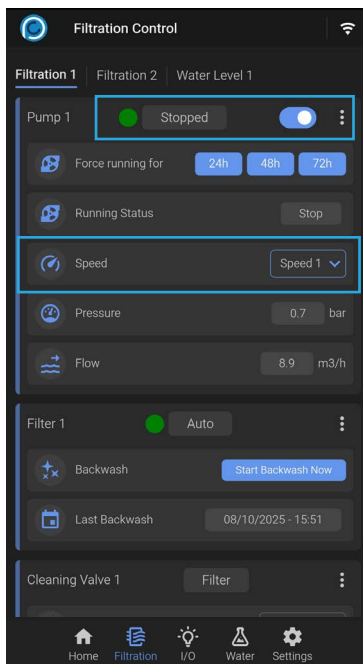
**NOTE:**

**Due to common control modes, several pumps – sometimes unrelated – are grouped under the same Pump Type designation.**

**As a result, the selected Pump Type may not exactly match the specific pump model installed.**

## 2.2 MANUAL PUMP CONTROL

To ensure your variable speed pump is correctly slaved to the PoolCop or SPACE unit, test the control in the **Filtration** shortcut menu:



This menu allows you to start and stop the pump and to change pump speeds, ensuring that the pump responds correctly to remote control.

# 3 USER GUIDE

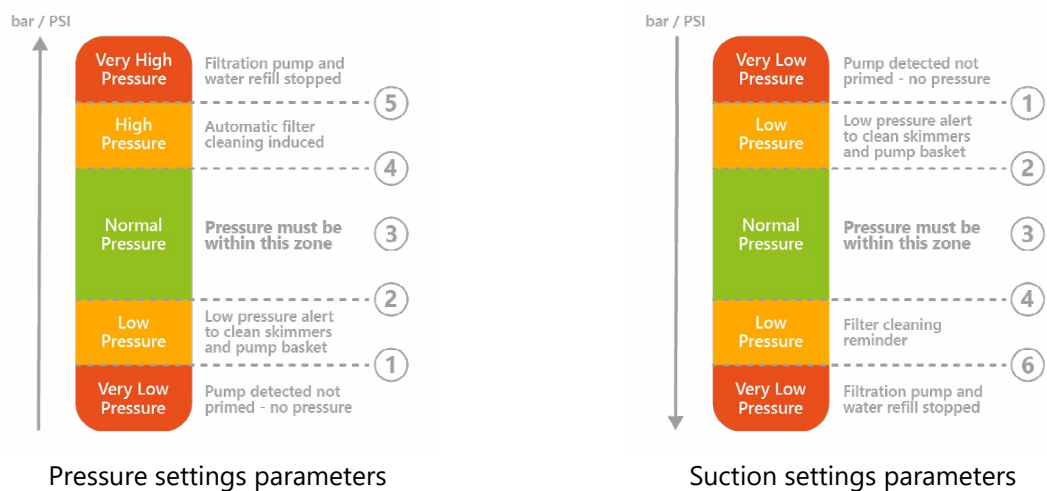
## 3 USER GUIDE

Pump Protection and automatic filter cleaning pressure settings are defined by the installer so they closely match the actual conditions of the installation.

### 3.1 UNDERSTANDING PRESSURE PARAMETERS

Pressure management is widely used to control filtration. Settings are defined in:

- Pump data menu
- Filter data menu



#### 1. Pump Priming Pressure (Pump Data)

When pressure is below Pump Priming pressure, the pump is considered not primed. If pressure falls below this threshold for more than 8 minutes (and protection is ON), pump protection is triggered, and the unit will stop the filtration to prevent damage. A «No Pressure» error alert is emitted.

#### 2. Suction Alert Pressure (Pump Data)

Signals that pressure is below normal range, but circulation is still present. Triggers a «Low Pressure» warning alert advising to clean skimmer baskets and the pump's pre-filter strainer.

#### 3. Normal Pressure

Shows the ideal working pressure for the pump during filtration. For variable speed pumps, all speeds (except backwash speed) should fall within this zone.

#### 4. Filter Cleaning Pressure (Filter Data)

If pressure is at or above this value for 5 minutes, a backwash is triggered, or an alert is sent to clean the filter.

#### 5. High Pressure (Fixed Value)

An alert occurs at 2 bars.

At 2.6 bar (37.7 PSI), the pump and refill stop immediately to protect equipment, except in NO PUMP mode.

#### 6. Very Low Pressure (Fixed Value)

At -0.85 bar (-12.3 PSI), the pump and refill stop to prevent damage, except in NO PUMP mode.

# 3 USER GUIDE

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## 3.2 DETERMINE PUMP PROTECTION PRESSURE VALUES: PUMP PRIMING AND SUCTION ALERT

Use Manual Control of your variable speed pump via the Filtration shortcut menu to assess:

- Static pressure: the pressure measured when the pump is stopped.
- Operating pressure: the pressures measured at the speeds that will be used during normal daily filtration cycles.

Use this information to set the Pump Priming and Suction Alert pressure values in the Pump Settings menu (*Refer to sections 2.2 and 2.3*).

## 3.3 DETERMINE CLEANING PRESSURE VALUE

When setting the clean filter pressure, use the pressure measured with a clean filter while the pump is running at the maximum metered flow rate or highest pump speed. Then add a safety margin of approximately 0.20 bar to this value.



**NOTE:**

Some variable speed pump configurations and installations can result in longer pump priming times. In this case, add extra time to the desired backwash and rinse durations to allow for pump ramp-up and priming. For pools where the pump is under charge, or for pumps that prime quickly, this additional margin may not be necessary.

## 3.4 SETTING UP FILTRATION CYCLES

Filtration is the foundation of effective pool management. A properly maintained filter and suitable filtration duration reduce organic matter and nutrients in the water, helping chemical treatment remain stable and predictable. When filtration is insufficient, whether due to inadequate runtime or degraded filter media, even high chemical doses may fail to keep the water safe and healthy.

The PoolCop/SPACE unit offers several filtration modes, such as timed cycles, eco modes, and continuous operation, to suit different pool usage patterns and requirements. By selecting an appropriate mode, users can maintain efficient and effective filtration at all times and keep the water clean and healthy under varying operating conditions.

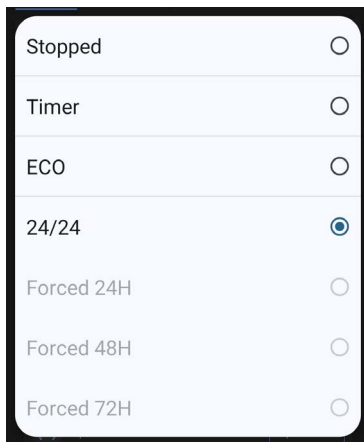
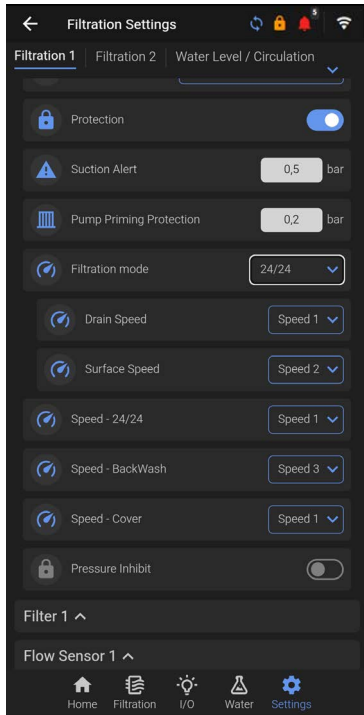


**WARNING:**

The selected filtration mode must comply with local and national codes and regulations. In commercial pools, 24/24 or NO PUMP modes are typically required.

# 3 USER GUIDE

Filtration Mode, Cycle durations and specific Speeds can be determined in Filtration Settings.



## FILTRATION MODE

**STOPPED** : no filtration set.

### NO PUMP

Pump and Pump Speeds are not controlled by the PoolCop or SPACE. **Filtration is considered as ongoing if the pressure is above the Pump Priming threshold.**

### TIMER

Allows configuration of up to 4 filtration cycles with individual speed settings.

### ECO

Set up the 1st cycle duration and the start of the 2nd cycle, and unit will calculate optimal filtration time based on water temperature and hydraulic coefficient.

*WARNING : Requires complete Pool Setting configurations. Only recommended when water temperature is below 25°C.*

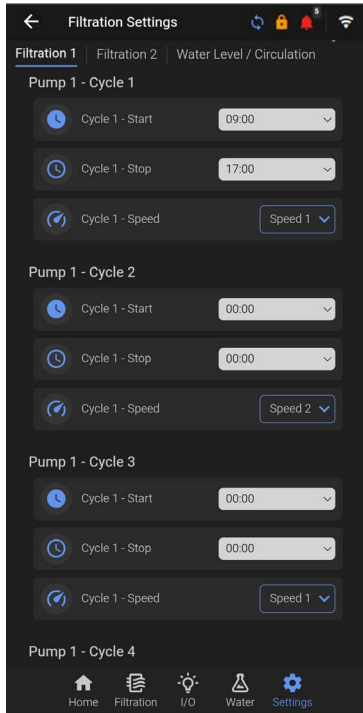
### 24/24

Runs the pump continuously, 24 hours a day, at the speeds set for each cycle or according to suction valve position, if equipped.

### **FORCED 24h/48h/72h (started in shortcut menu):**

Temporarily runs filtration in 24/24 mode for the selected period, then automatically reverts to previous settings.

# 3 USER GUIDE



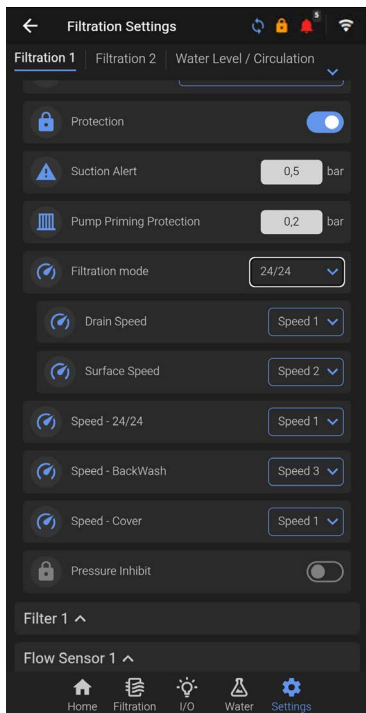
## SETTING THE FILTRATION CYCLES

(Timer - 24/24 without suction valve – Forced Modes)

Configure up to four filtration cycles to match pool usage, adjusting for factors like day/night variation and bathing load.

- Set the start and end times for each cycle.
- Assign a pump speed to each cycle as needed.
- During 24/24 mode, assigned speeds are used outside of defined cycles.
- If cycles overlap, the order of priority applies: Cycle 1 > Cycle 2 > Cycle 3 > Cycle 4.

## SPECIFIC SPEED SETTINGS



Some pump settings relate to specific situations :

- **Backwash Speed:** If a backwash valve is installed, speed at which the unit will perform a backwash.
- **Speed Cover:** If no suction valve installed and cover position detected via an Input, speed when cover closed.
- **Cover Reduction:** If single speed pump and cover position detected via an Input, will reduce water treatment by the set percentage.

# 4 WIRING & PROGRAMMING

## 4 WIRING & PROGRAMMING

### 4.1 IMPORTANT INFORMATION

In this section you will find instructions to install, wire, and control different types of variable speed pumps and frequency controllers.



**IMPORTANT:**

Follow all instructions in the Installation Section of the latest manual of your pump or controller for correct electrical connection, additional bonding and earth requirements.

Respect all warnings and recommendations given by the pump or controller manufacturer, including any that are not mentioned in this manual.

For each Pump / Controller you will find:

- General informations and guidelines
- Warnings related to any specific characteristics of the equipment
- Which Pump Type to select in the Pump Settings menu
- Wiring diagram(s) and an auxiliaries control table showing how the PoolCop/SPACE unit controls Start/Stop and speed changes for the configured Pump Type
- Instructions on how to slave the pump for remote control via the PoolCop/SPACE.

Follow all steps carefully to ensure that the PoolCop/SPACE unit can control your equipment correctly.



**NOTE:**

The Auxiliaries Control Table shows which Auxiliary is ON/OFF for each speed when controlled by PoolCop/SPACE.

**Setting up the pump or controller in external control mode is essential to allow management via the PoolCop/SPACE unit.**

All wiring schematics and auxiliaries control tables are shown for the **primary** filtration pump. This pump uses Aux 1, Aux 9, Aux 10, and Aux 11.

For a **secondary** filtration pump, use Aux 5, Aux 12, Aux 13, and Aux 14 respectively.

# 4 ACIS

---

## 4.2 ACIS

### 4.2.1 ACIS VariPool

See **Aquagem** (section 4.3.1)

### 4.2.2 ACIS VIPool MKB VS



**WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.



**IMPORTANT:**

PoolCop/SPACE uses an active signal (closed relay contact) to stop the pump. For this reason, the unit must never be switched OFF while the pump is RUNNING.  
If this happens, the pump can only be stopped by opening the circuit breaker.



**IMPORTANT NOTE:**

To connect the pump to a PoolCop or SPACE unit a C5FVS cable is required. Please contact your pump supplier to obtain this cable.

The Acis VIPool pump is fully controllable at the 3 factory-configured speeds of 2000, 2430 and 2830 rpm.

# 4 ACIS



**NOTE:**

When the pump is switch on, the top speed (2830 RPM) is always activated for 5 minutes to prime the pump.

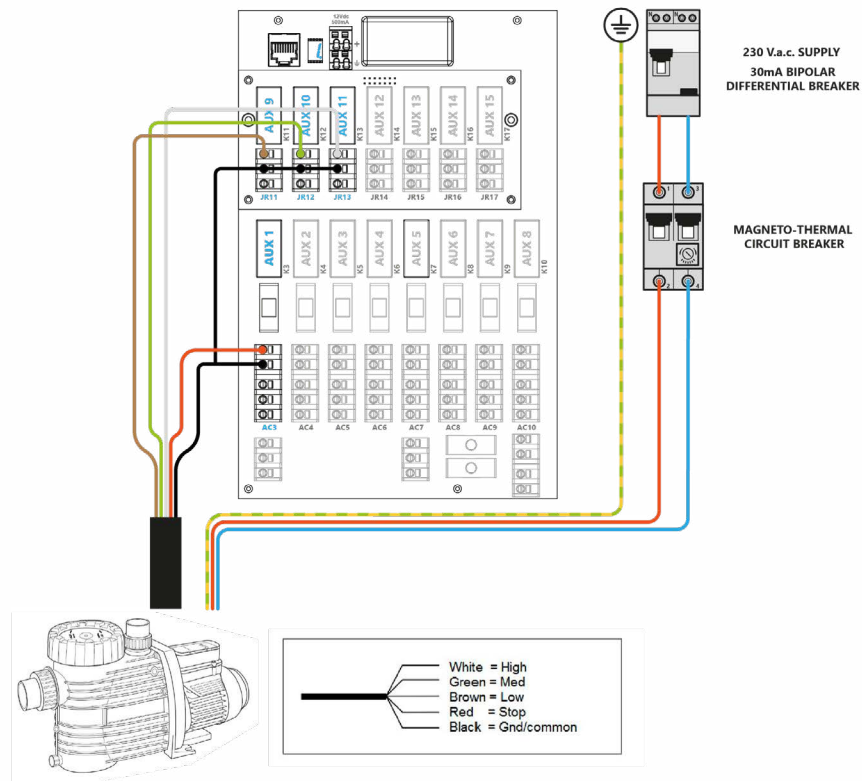
When switching via the external PoolCop/SPACE relays, the linked speed is not activated until this 5 minute priming period is completed.

## CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| ACIS VIPool MKB VS    | SPEED | AUX 1    | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|----------|-------|--------|--------|
| Output relay statuses | STOP  | PULSE ON | OFF   | OFF    | OFF    |
|                       | 1     | OFF      | ON    | OFF    | OFF    |
|                       | 2     | OFF      | ON    | ON     | OFF    |
|                       | 3     | OFF      | OFF   | ON     | ON     |



# 4 ACIS

---

## PROGRAMMING THE PUMP



**NOTE:**

Select **Acis ViPool MKB VS** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

The ACIS ViPool MKB VS allows you to adjust the three speeds between 1,000 rpm and 2,830 rpm in 50 rpm increments (refer to the pump manual). These settings are made while the pump is running. Use the PoolCop/SPACE manual command menu to start the pump at the speed you want to set, then follow the pump instruction manual to adjust the speed.

Priming speed and priming time are also programmable. This can only be done when the pump is stopped, and is not possible while a stop command is being requested by PoolCop/SPACE. To allow these settings, proceed as follows:

- From the PoolCop/SPACE manual command menu, start the pump on speed 1.
- On the pump keypad, press '0' to stop the pump.
- Follow the manual instructions to adjust priming speed and time.
- When the operation is complete, use the PoolCop/SPACE manual command menu to confirm pump OFF.

**Note:** If the setup operation takes more than 8 minutes, PoolCop/SPACE will confirm pump OFF and display the error message: «no pressure». This does not affect further use.

## OPERATION NOTES

- The pump can be started manually outside filtration cycles and stopped during a filtration cycle using the PoolCop/SPACE manual pump control.
- Pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump keypad, the linked speed will be reset for the next filtration cycle.
- The ACIS ViPool MKB VS pump will always run at high speed for approximately 5 minutes when started; linked speeds become active only after this initial priming period.
- Linking the high speed to "Clean" in the Pump Data menu ensures that the higher speed is maintained if a long automatic or manual backwash or rinse is commanded.
- Once connected to PoolCop/SPACE, speed control on the pump keypad is inhibited.
- If the pump is stopped using the pump keypad, it must be restarted from the PoolCop/SPACE Manual Control menu: first send a STOP command, then a START command. The pump will then restart under PoolCop/SPACE control.

# 4 AQUAGEM

## 4.3 AQUAGEM

### 4.3.1 Aquagem iSAVER+, InverStar, InverPro – Acis VariPool – CF Vitalia VS



#### WARNING:

The information provided is for guidance only. Always follow the manufacturer's recommendations as given in the most recent equipment manual. No responsibility is accepted for any changes to pump specifications or for incorrect connection, control, or programming of the pump.

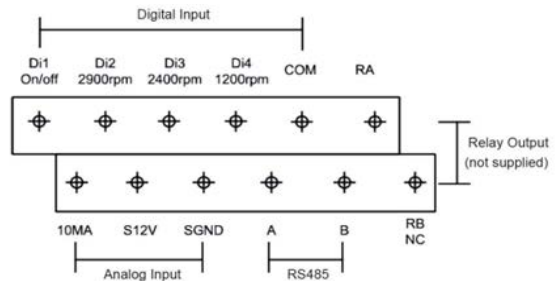
### CONNECTING THE PUMP

Power must be supplied to the pump or inverter via an external breaker

The **Inverpro** pump is supplied with a 5-wire control cable identified by a colour code (see diagram)

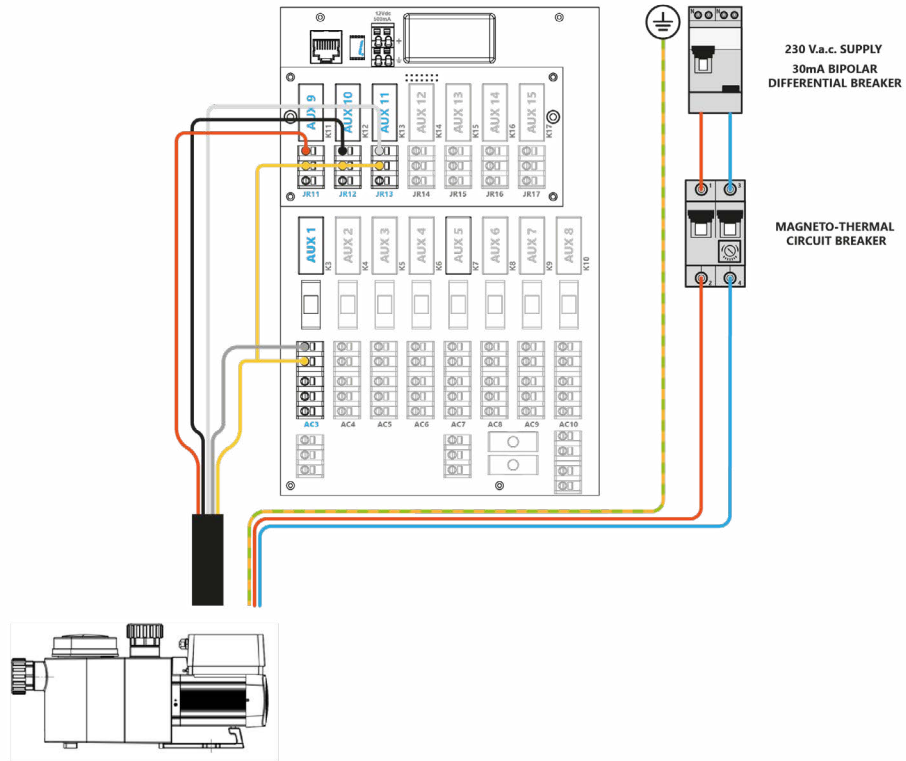
| NAME   | COLOUR | DESCRIPTION     |
|--------|--------|-----------------|
| AUX 1  | Red    | Digital Input 4 |
| AUX 2  | Black  | Digital Input 3 |
| AUX 3  | White  | Digital Input 2 |
| PUMP   | Grey   | Digital Input 1 |
| COMMON | Yellow | Digital Ground  |

For **other pumps or frequency inverters**, the wires must be connected to the internal terminal block as shown in the diagram.



# 4 AQUAGEM

| AQUAGEM              | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|----------------------|-------|-------|-------|--------|--------|
| Ouput relay statuses | STOP  | ON    | OFF   | OFF    | OFF    |
|                      | 1     | OFF   | ON    | OFF    | OFF    |
|                      | 2     | OFF   | OFF   | ON     | OFF    |
|                      | 3     | OFF   | OFF   | OFF    | ON     |



Wiring exemple with an Aquagem InverPro E Saver

## PROGRAMMING THE PUMP











### NOTE:

Select **AQUAGEM** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

# 4 AQUAGEM

Speed settings on the pump controller:

| BUTTONS   | ACTION                    | PARAMETER            | SETTING   |
|---|---------------------------|----------------------|---|
|  | Press to turn the pump on |                      |   |
|  | Press both for 3 seconds  | Address 1 (PIN3)     | Set high capacity from 30%-100%   |
|  | Press both for 3 seconds  | Address 2 (PIN2)     | Set medium capacity from 30%-100%   |
|  | Press both for 3 seconds  | Address 3 (PIN1)     | Set low capacity 30%-100%   |
|  | Press both for 3 seconds  | Address 4 (Backwash) | Set backwash capacity 30%-100%.<br>Not used when PoolCop/<br>SPACE is in control. |
|  | Press both for 3 seconds  | Address 5 (PIN1)     | Analog mode of analog input.<br>Not used when PoolCop/<br>SPACE is in control.    |
|  | Press both for 3 seconds  | Address 6 (Priming)  | Enable priming =25<br>Disable priming = 0   |
|  | Press to turn pump ON     |                      |   |



**NOTE:**

For **Inverpro** pumps, the Auto-Inverter mode (control of flow rate) is inactive when speeds are controlled by PoolCop/SPACE via digital inputs.

## 4.4 CF

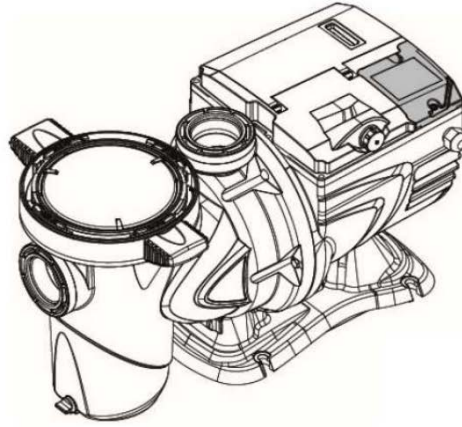
### 4.4.1 CF Vitalia VS

See **Aquagem** (section 4.3.1)

# 4 DAB

## 4.5 DAB

### 4.5.1 DAB E-Swim & E.Pro



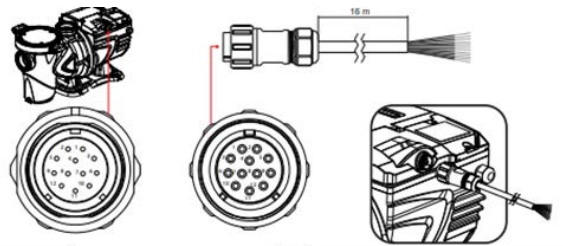
**WARNING:**

The information provided is for guidance only. Always follow the manufacturer’s recommendations as given in the most recent equipment manual. No responsibility is accepted for any changes to pump specifications or for incorrect connection, control, or programming of the pump.

### CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker and a contactor.

The 12-pin DAB external cable (Ref. 60194528) must be used to control the pump.



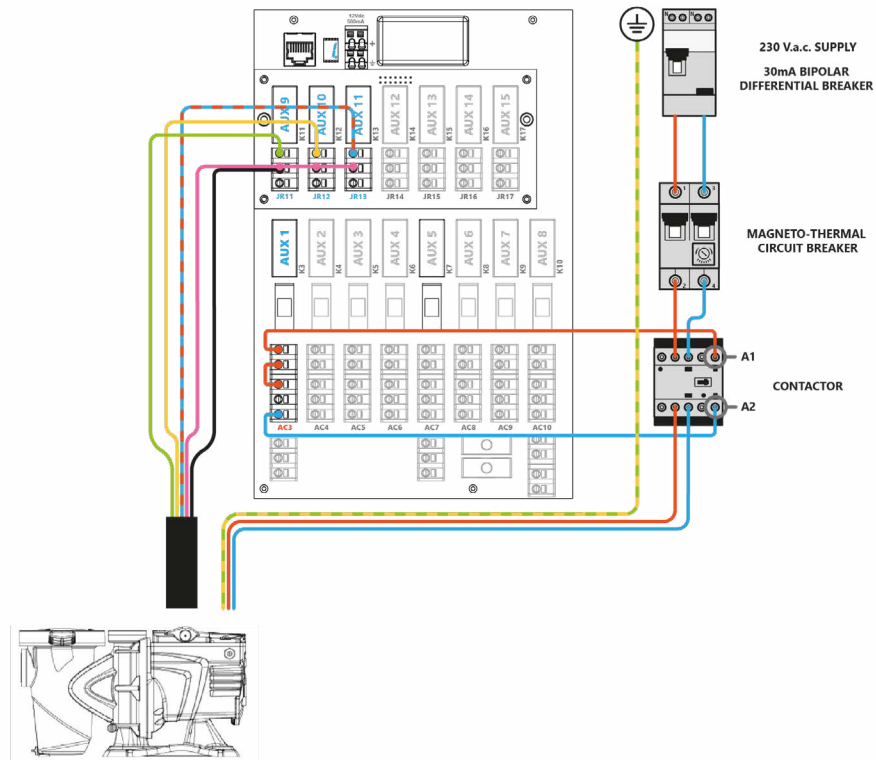
| Wiring Table |                     |            |
|--------------|---------------------|------------|
| Pin n        | Signal              | Wire Color |
| 1            | Digital input IN0_D | Red        |
| 2            | Analog input IN0_A  | Brown      |
| 3            | GND                 | Black      |
| 4            | Relais common       | Blue       |
| 5            | Relais NO           | White      |
| 6            | Digital input IN1_D | Pink       |
| 7            | Digital input IN2_D | Green      |
| 8            | Digital input IN3_D | Yellow     |
| 9            | Relais NC           | Purple     |
| 10           | GND                 | Black      |
| 11           | Digital input IN4_D | Blue       |
| 12           | Not used            | Red        |

The pump includes an 8-wire cable with an RJ45 connector for external control. If required, a cable can be custom-made using a Weipu SP2110/S12 connector.

# 4 DAB

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| DAB E.Swim & E.Pro    | SPEED      | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|------------|-------|-------|--------|--------|
| Output relay statuses | STOP       | OFF   | OFF   | OFF    | OFF    |
|                       | 1          | ON    | OFF   | OFF    | ON     |
|                       | 2          | ON    | OFF   | ON     | OFF    |
|                       | 3          | ON    | ON    | OFF    | ON     |
|                       | 4          | ON    | ON    | ON     | OFF    |
|                       | 5          | ON    | ON    | OFF    | OFF    |
|                       | 6 (BCKWSH) | ON    | OFF   | ON     | ON     |



## PROGRAMMING THE PUMP



### NOTE:

Select **DAB E-Swim** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

- Start the pump: After completing the wiring, start the pump from the PoolCop/SPACE unit.
- Use the pump user manual to navigate the menus. The following menus must be checked, and the settings in bold must be applied:

# 4 DAB

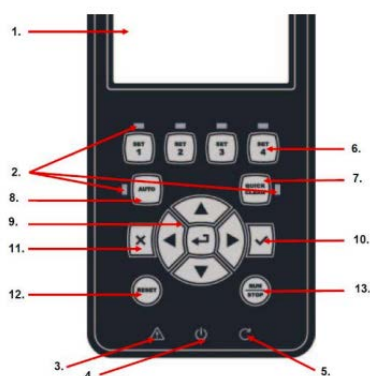
- Settings: To be defined according to the installation. If the pump can exceed the flow/pressure of the installation (filter, pipes..) it is recommended to set limits on head and/or speed.
- Manual control: Define the flow or speed associated with the keypad buttons Set1, Set2, Set3, and Set4.
- Timer control: will not be used, PoolCop/SPACE will control the operating times.
- External control:
  - External speeds:
    - Control Mode: speed/flow
    - X1/X4: setting for the 4 speed/flow setpoint
  - Settings:
    - Config: **Override.**
    - Source Speeds: **Digital IN.**
    - Start Input: **Speeds.**
    - Speed Mode: **Priority.**
  - Priming: Adjust according to the installation; in general, priming is not required when the pump is below the water level.
  - Protections:
    - Anti-freeze: No. By default, PoolCop/SPACE manages freeze protection.
    - Anti-Lock: Yes.

## OPERATION NOTES

The pump can be started manually outside filtration cycles, and stopped during a filtration cycle, using the PoolCop/SPACE manual pump control.

The pump speed can also be adjusted while the pump is running using the PoolCop/SPACE manual pump control.

To take control of the pump from PoolCop/SPACE:



- Start the pump from PoolCop/SPACE in speed/flow 1.
- On the pump, if indicator light 3 is steadily ON with the text "SYSTEM FAULT", note the fault and press button 12 (RESET) to clear it.  
**Note :** light #3 blinks until the SVRS system is armed; this is normal.
- If light #5 is OFF and light #4 (STANDBY) is blinking, with text 'SYSTEM DISABLE', press the START/STOP button 13. Light 5 must then turn ON.
- If one of the buttons SET1, SET2, SET3, SET4, or QUICKCLEAN is lit, press the corresponding button to turn it OFF.
- Press the AUTO button to turn the AUTO indicator ON.
- Press the AUTO 8 button to turn its indicator ON and enable external control.
- In normal operation, **the text 'EXT CONTROL' should be visible on the screen.** If this text is not visible, the pump is not being controlled by PoolCop/SPACE.

# 4 DAVEY

## 4.6 DAVEY

### 4.6.1 Davey ProMaster VSD400



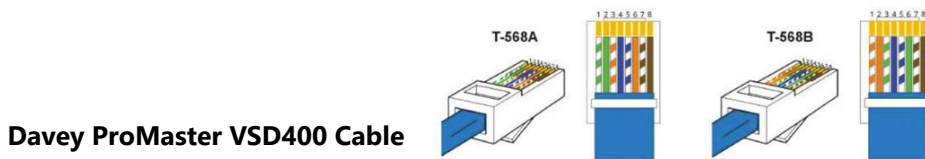
**WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

### CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker and a contactor.  
The pump includes an 8-wire cable with an RJ45 connector for external control.

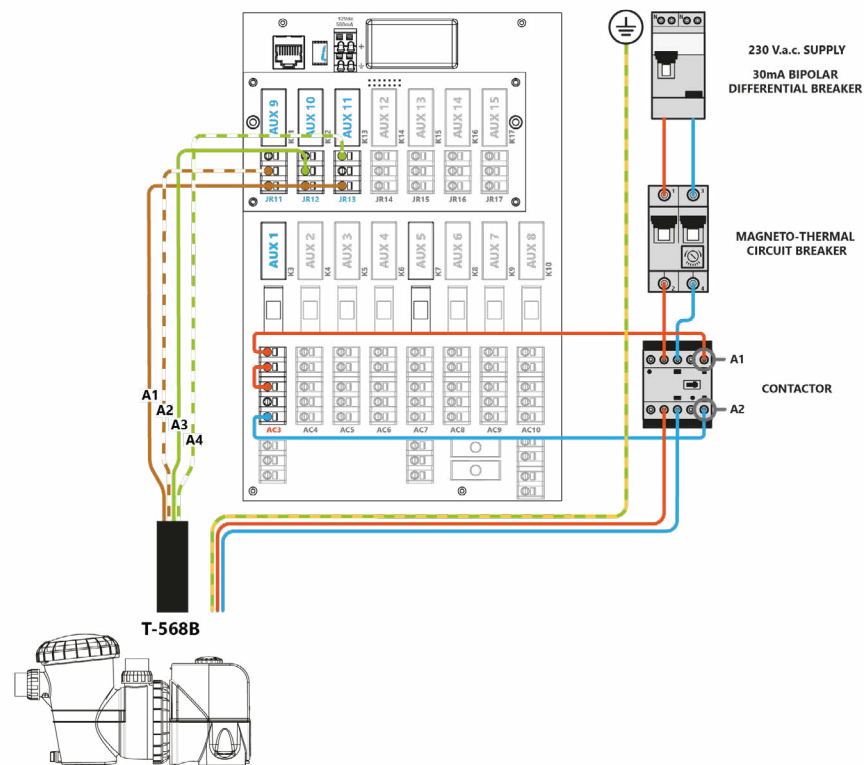
Two wiring options are available for Davey ProMaster VSD400 pumps (T-568A and T-568B). The cable assignment for each function is shown in the diagram.



|           | PIN | FUNCTION        | T-568A       | T-568B      |
|-----------|-----|-----------------|--------------|-------------|
| <b>A4</b> | 3   | Digital Input 3 | Orange/White | Green/White |
| <b>A3</b> | 6   | Digital Input 2 | Orange       | Green       |
| <b>A2</b> | 7   | Digital Input 1 | Brown/White  | Brown/White |
| <b>A1</b> | 8   | 24V             | Brown        | Brown       |

# 4 DAVEY

| Davey ProMaster VSD   | SPEED      | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|------------|-------|-------|--------|--------|
| Output relay statuses | STOP       | OFF   | OFF   | OFF    | OFF    |
|                       | 1          | ON    | OFF   | OFF    | ON     |
|                       | 2          | ON    | OFF   | ON     | OFF    |
|                       | 3          | ON    | ON    | OFF    | ON     |
|                       | 4          | ON    | ON    | ON     | OFF    |
|                       | 5          | ON    | ON    | OFF    | OFF    |
|                       | 6 (BCKWSH) | ON    | OFF   | ON     | ON     |



Wiring example with a T-568B cable

## PROGRAMMING THE PUMP



### NOTE:

Select **Davey ProMaster VSD** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

- At start-up, the pump runs a priming cycle at full speed for about 45 seconds.
- There are no specific settings on the pump. The available speeds are pre-selected.
- During backwash, the pump alternates between low and high speed to stir and unplug the filter media while reducing water consumption.
- The boost cycle can be set using the switches on the back of the motor cover.

# 4 HAYWARD

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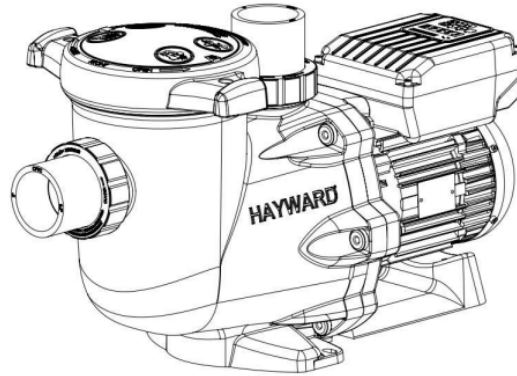
## OPERATION NOTES

- The pump can be started manually outside filtration cycles and stopped during a filtration cycle using the PoolCop/SPACE manual pump control.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.
- Linking the BCKWSH speed to CLEAN in the Pump Data menu ensures that the higher speed is maintained when a long automatic or manual backwash or rinse cycle is run.

# 4 HAYWARD

## 4.7 HAYWARD

### 4.7.1 Hayward EcoStar



**WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

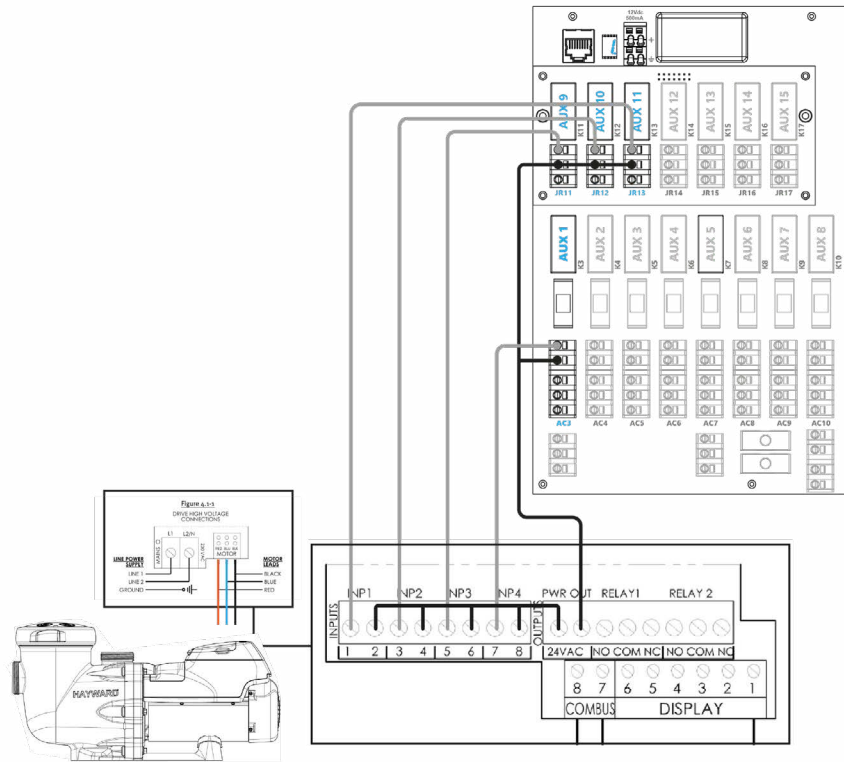
### CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker.  
The pump provides a 12 V supply to energize the relays used for external speed control.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Hayward EcoStar       | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | ON    | OFF   | OFF    | OFF    |
|                       | 1     | OFF   | OFF   | OFF    | OFF    |
|                       | 2     | OFF   | ON    | OFF    | OFF    |
|                       | 3     | OFF   | OFF   | ON     | OFF    |
|                       | 4     | OFF   | ON    | ON     | OFF    |
|                       | 5     | OFF   | OFF   | OFF    | ON     |
|                       | 6     | OFF   | ON    | OFF    | ON     |
|                       | 7     | OFF   | OFF   | ON     | ON     |
|                       | 8     | OFF   | ON    | ON     | ON     |

# 4 HAYWARD



## PROGRAMMING THE PUMP



### NOTE:

Select **Hayward EcoStar** in Pump Settings.  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

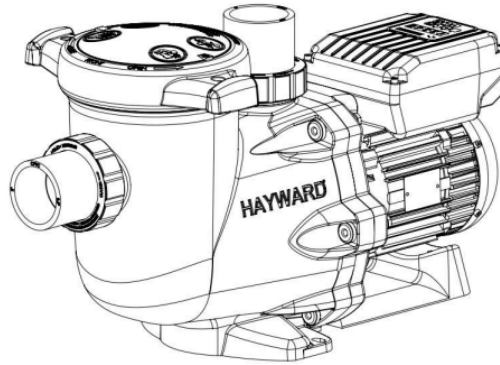
- The EcoStar pump allows adjustment of 8 speeds (see the pump user manual for details).
- Open the TIMER menu.
- For each speed to be used with PoolCop/SPACE:
  - Set the start time and stop time to the same value to disable the internal timer.
  - Set the required speed.

## OPERATION NOTES

- The pump cannot be started manually outside filtration cycles.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.

# 4 HAYWARD

## 4.7.2 Hayward VSTD



**WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

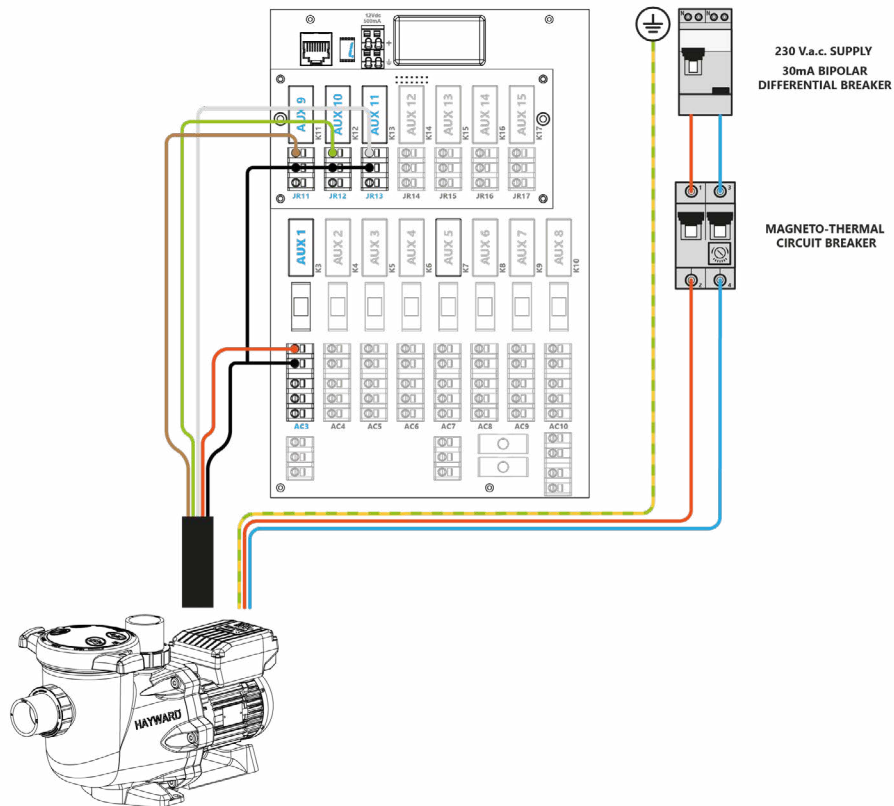
### CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker.  
The pump provides a 24V supply to energize the relays used for external speed control.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Hayward VSTD          | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | ON    | OFF    | OFF    |
|                       | 2     | ON    | OFF   | ON     | OFF    |
|                       | 3     | ON    | OFF   | OFF    | ON     |

# 4 HAYWARD



## PROGRAMMING THE PUMP



### NOTE:

Select **Hayward Tristar** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

- The VSTD drive allows adjustment of 3 speeds (see the pump user manual). These adjustments are made while the pump is running. Start the pump at the required speed from the PoolCop/SPACE manual control menu, then use the UP and DOWN arrows on the pump drive to set the speed.
- Press and hold the current speed key for approximately 3 seconds to save the new setting.
- All pump timers must be set to OFF (t1 OFF, t2 OFF, t3 OFF, t4 OFF, t5 OFF).
- To check the timer settings, press DISP/FUNC for more than 3 seconds to enter the CONF menu, then press DISP/FUNC again. Use the DOWN arrow to set each timer to OFF.

## OPERATION NOTES

- The pump cannot be started manually outside filtration cycles.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.

# 4 INVERTEK

## 4.8 INVERTEK

### 4.8.1 Invertek Optidrive E<sup>2</sup> and E<sup>3</sup> inverters - with a triphase pump



**WARNING:**

The information is for guidance only. Follow the manufacturer's recommendations as per the latest equipment manual at all times. No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.



**NOTE:**

Before installation, check the permitted pump speeds and voltage limits with the manufacturer. Do not exceed the nominal speed and avoid very low speeds that could cause motor overheating.

### CONNECTING THE PUMP INVERTER

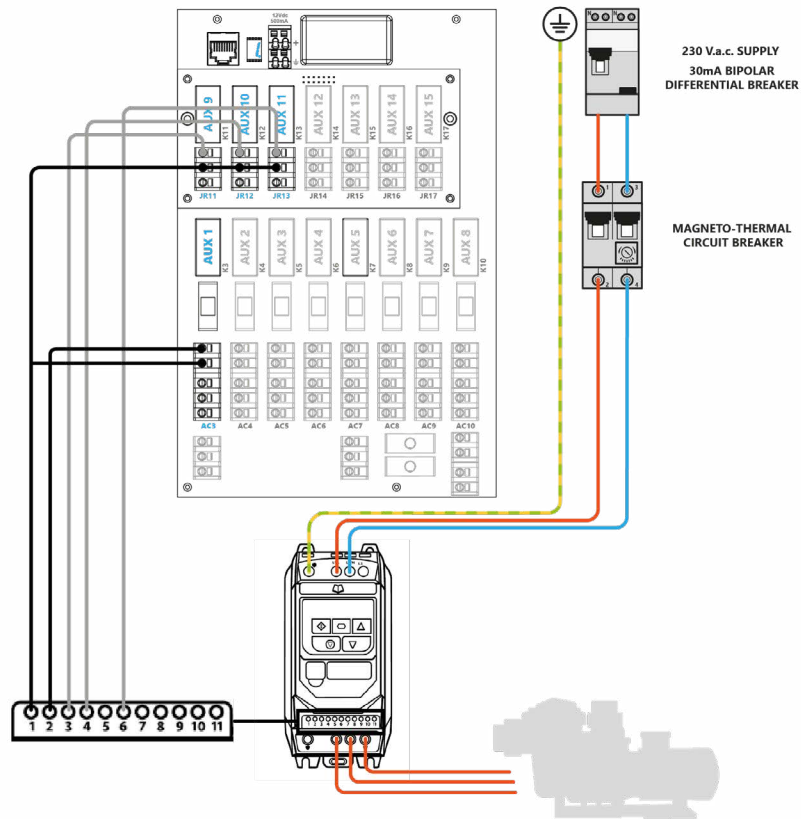
Single phase power must be supplied to the inverter via an external breaker. The pump will be powered via the inverter.

The inverter provides a 24 V supply to energize the relays used for external speed control.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Invertek Optidrive    | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | OFF   | OFF    | OFF    |
|                       | 2     | ON    | ON    | OFF    | OFF    |
|                       | 3     | ON    | OFF   | ON     | OFF    |
|                       | 4     | ON    | ON    | ON     | OFF    |
|                       | 5     | ON    | OFF   | OFF    | ON     |

# 4 INVERTEK



## PROGRAMMING THE INVERTER



### NOTE:

Select **Invertek Optidrive E2** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

Optidrive allows up to 5 external speeds to be configured. The last speed should always be set as the highest permissible pump speed.

This manual only describes the parameters required for control by the PoolCop/SPACE unit. For all other settings, refer to the Optidrive inverter user guide.

| PARAM | VALUE | FUNCTION  |
|-------|-------|---|
| P-01  |       | Highest Frequency (speed) - Refer to pump manufacturer data |
| P-02  |       | Lowest Frequency (speed) - Refer to pump manufacturer data  |
| P-07  |       | Nominal voltage - See manufacturer data sheet               |
| P-08  |       | Nominal amperage - See manufacturer data sheet              |
| P-09  | 0     | Nominal frequency - See manufacturer data sheet             |
| P-12  |       | Invertek is controlled by control terminal                  |
| P-15  | 2     | 4 preset speeds + 1 high speed                              |

# 4 INVERTEK

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|      |      |  |
|------|------|--|
| P-20 | XXX1 | Speed #1. Value between P-01 and P-02                              |
| P-21 | XXX2 | Speed #2. Value between P-01 and P-02, should be higher than xxxx1 |
| P-22 | XXX3 | Speed #3. Value between P-01 and P-02, should be higher than xxxx2 |
| P-23 | XXX4 | Speed #4. Value between P-01 and P-02, should be higher than xxxx3 |

## OPERATION NOTES

- The pump can be started manually outside filtration cycles and stopped during filtration cycle using the PoolCop / SPACE manual pump control.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.
- It is not possible to stop the pump using the Invertek Optidrive keypad; in this configuration, the Optidrive is controlled only by the PoolCop/SPACE unit.

# 4 PAHLEN

## 4.9 PAHLEN

### 4.9.1 Pahlen EcoVISE & EcoFloVISE



**WARNING:**

The information is for guidance only. Follow the manufacturer's recommendations as per the latest equipment manual at all times. No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

### CONNECTING THE PUMP

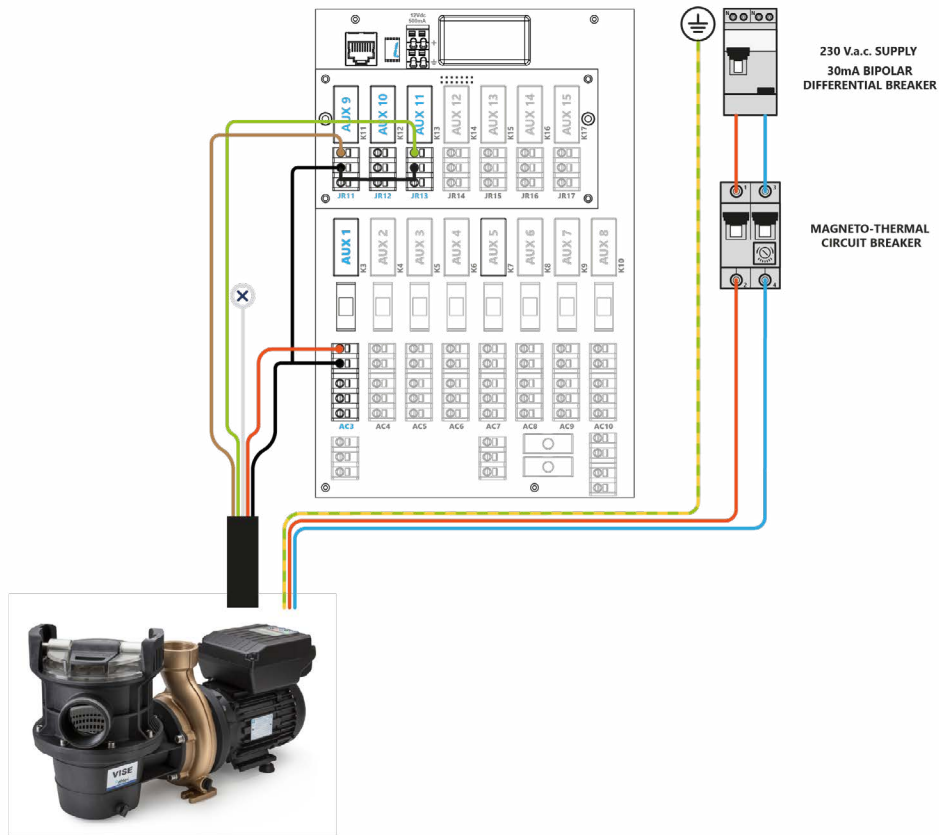
Power must be supplied to the pump via an external breaker.

The PAHLEN EcoVISE and EcoFloVISE pumps are supplied with a control cable identified by a colour code:

| NAME | COLOUR | DESCRIPTION                   | RELAY                 |
|------|--------|-------------------------------|-----------------------|
| D1   | Brown  | ECO Speed                     | AUX 9                 |
| D2   | Green  | HIGH Speed                    | AUX 11                |
| GND  | Black  | Common                        | AUX 1/AUX 9/<br>AUX11 |
| +5V  | Red    | STOP                          | AUX 1                 |
| rEL  | White  | Analog Output -<br>DO NOT USE |                       |

| PAHLEN EcoVISE & EcoFloVISE | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------------|-------|-------|-------|--------|--------|
| Output relay statuses       | STOP  | ON    | OFF   | OFF    | OFF    |
|                             | 1     | OFF   | ON    | OFF    | OFF    |
|                             | 2     | OFF   | OFF   | ON     | OFF    |
|                             | 3     | OFF   | OFF   | OFF    | ON     |

# 4 PAHLEN

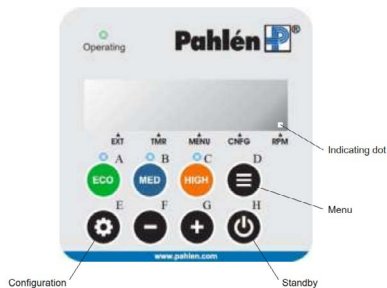


## PROGRAMMING THE PUMP



### NOTE:

Select **AQUAGEM** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.



- Open the configuration menu and check the following settings:
  - SP1: set the desired speed for ECO (Speed 1) – Default is 1500 rpm.
  - SP2: set the desired speed for MED (Speed 2) – Default is 2500 rpm.
  - SP3: set the desired speed for HIGH (Speed 3) – Default is 2900 rpm.
  - t1-t9: Weekly timers set to OFF.
  - d1: 1 (change speed to ECO).
  - d2: 3 (change speed to HIGH).
  - Priti: define the priming duration at startup.
- Start the pump using STANDBY button (H).
- Speeds can be adjusted while the pump is running by pressing + (F) and – (G) buttons.
- When the pump is controlled remotely, the EXT indicator is shown on the display.

# 4 PENTAIR

## 4.10 PENTAIR

### 4.10.1 Pentair Acu Drive XS (Danfoss VLT AQUA Drive)

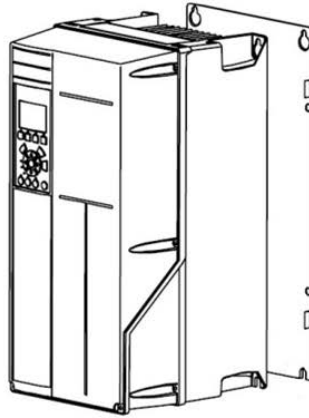


Figure 14 Pentair Acu Drive XS



#### WARNING:

The information is for guidance only.

Follow the manufacturer's recommendations as per the latest equipment manual at all times.

No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

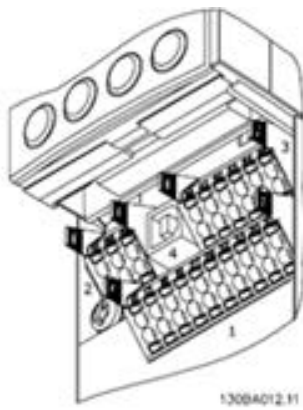
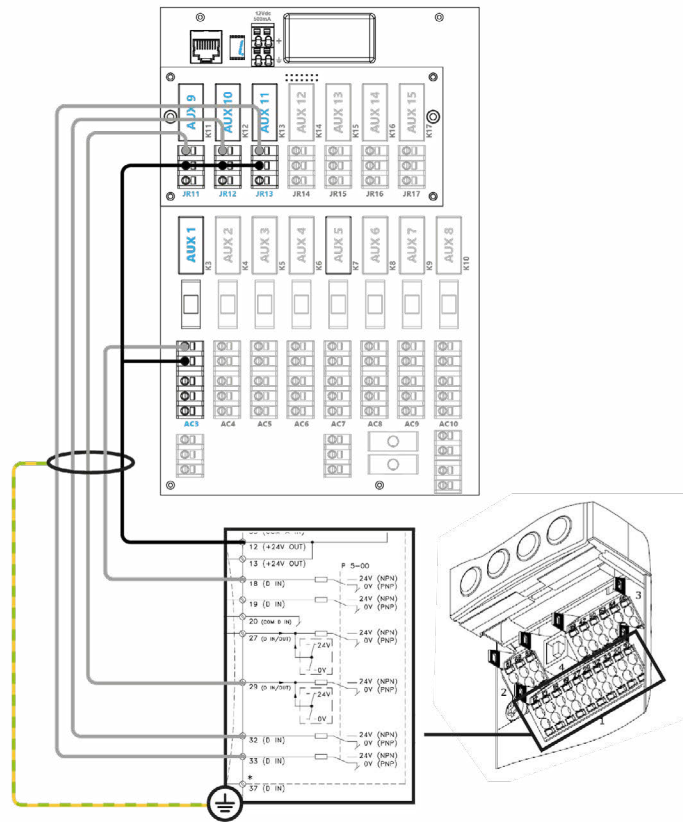
## CONNECTING THE PUMP

Pentair Acu Drive XS provides 8 preset, user-adjustable pump speeds.

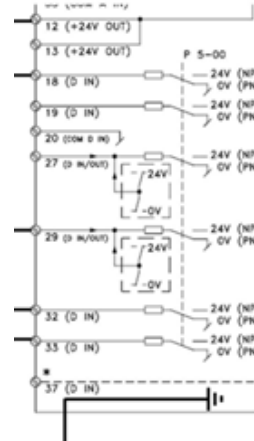
The pump is permanently powered, and the PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Binary Combination    | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | OFF   | OFF    | OFF    |
|                       | 2     | ON    | ON    | OFF    | OFF    |
|                       | 3     | ON    | OFF   | ON     | OFF    |
|                       | 4     | ON    | ON    | ON     | OFF    |
|                       | 5     | ON    | OFF   | OFF    | ON     |
|                       | 6     | ON    | ON    | OFF    | ON     |
|                       | 7     | ON    | OFF   | ON     | ON     |
|                       | 8     | ON    | ON    | ON     | ON     |

# 4 PENTAIR



Acu Drive XS Control Terminals



Acu Drive Electronics Board Mapping



**WARNING:**

Only screened and grounded cable must be used for control signal wiring.

# 4 PENTAIR

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## PROGRAMMING THE PUMP



**NOTE:**

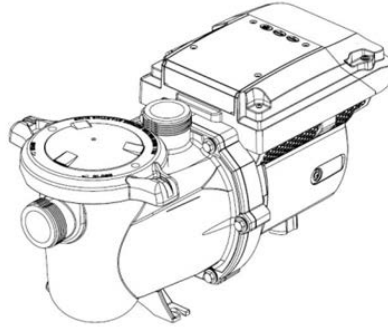
Select **Binary Combination** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

Review the Acu Drive XS manual for full parameter information. For speed control with PoolCop/SPACE, check the following parameters:

- 3-02= Minimum reference
- 3-03= Maximum reference
- 5-??=8 (input 18 configured as Start – normally the default setting).
- 5-13=16 (input 29 configured as Preset ref bit 0)
- 5-14=17 (input 32 configured as Preset ref bit 1)
- 5-15=18 (input 33 configured as Preset ref bit 2)
- 3-10 = speed table in % of full reference range (3-03 – 3-02)

# 4 PENTAIR

## 4.10.2 Pentair IntelliFlo® VSD, IntelliFlo® VSF and IntelliFlo3 VSF



**WARNING:**

The information is for guidance only.  
 Follow the manufacturer’s recommendations as per the latest equipment manual at all times.  
 No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

### CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker.  
**IntelliFlo VSD** provides 4 preset, user-adjustable pump speeds.  
**IntelliFlo VSF** provides 4 preset, user-adjustable pump speeds or flows.

The Pentair IntelliComm or IntelliComm II modules are required to control the VSD and the VSF pumps at different speeds.

The pump is permanently powered.  
 On the pump keypad, the pump must be left in OFF mode so that the PoolCop/SPACE unit can start and stop the pump and select the required speed.



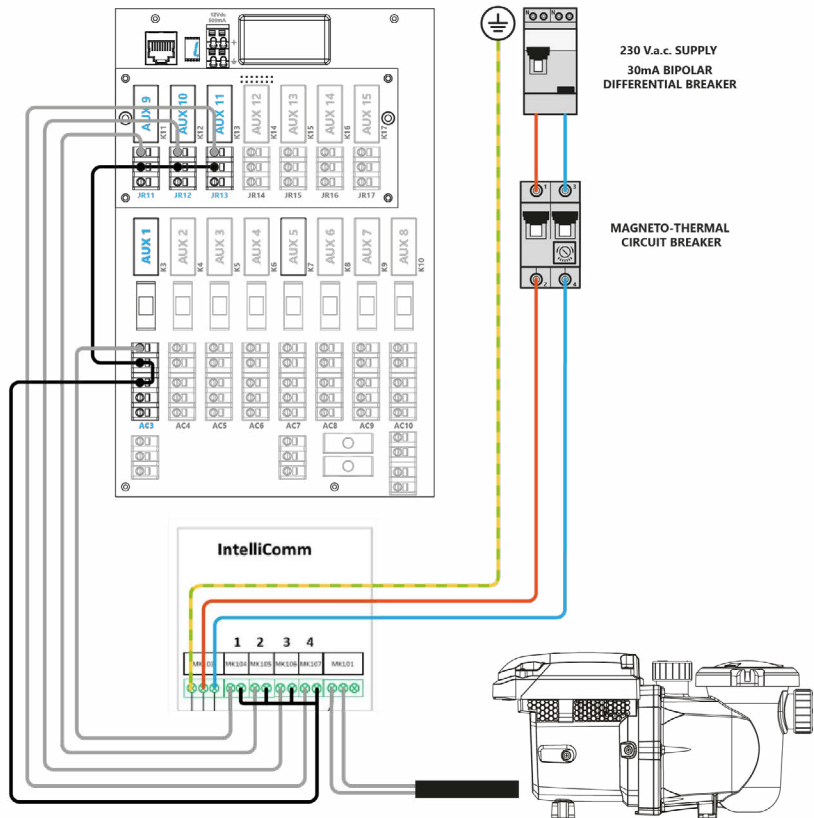
**WARNING:**

With this connection scheme PoolCop/SPACE may not be able to stop the pump if it is started from the pump keypad.  
 In this case, the PoolCop/SPACE safety functions will trigger an alert.

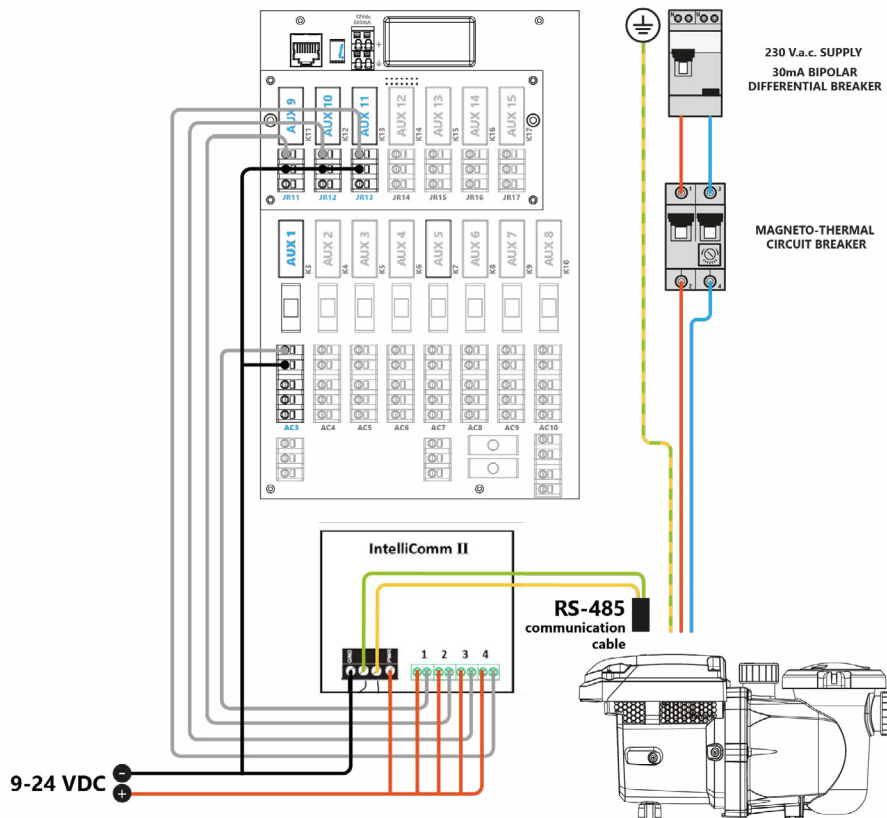
When no signals are sent to the IntelliComm module, the pump returns to the last state commanded from the keypad.

| Pentair IntelliCom    | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | OFF   | OFF    | OFF    |
|                       | 2     | ON    | ON    | OFF    | OFF    |
|                       | 3     | ON    | OFF   | ON     | OFF    |
|                       | 4     | ON    | OFF   | OFF    | ON     |

# 4 PENTAIR

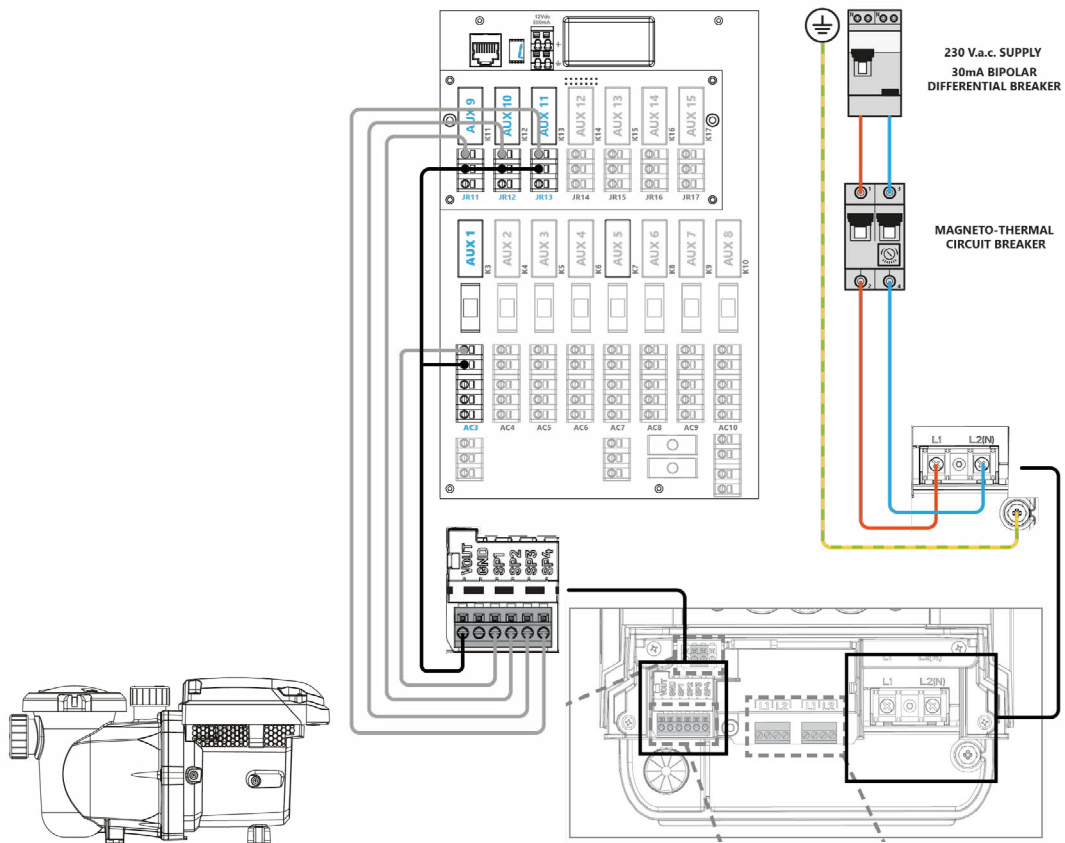


Wiring exemple with IntelliComm



Wiring exemple with IntelliComm II

# 4 PENTAIR



Wiring example with IntelliComm III

## PROGRAMMING THE PUMP



### NOTE:

Select **PENTAIR IntelliFlo VS** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.



### IMPORTANT:

The pump must be controlled only via the IntelliComm module and should not be run independently when used with PoolCop/SPACE.

# 4 PENTAIR

---

## RECOMMENDED SETTINGS:

|                                     |   |
|-------------------------------------|---|
| <b>Settings, Pump Address:</b>      | Set pump address to 1.  |
| <b>Settings, Set Minimum Speed:</b> | Set the minimum allowed speed, for example 450 rpm.   |
| <b>Settings, Set Maximum Speed:</b> | Set the maximum speed according to the installation (hydraulic limits).   |
| <b>Speed 1-8:</b>                   | Ensure these speeds are in MANUAL or DISABLED mode. If any speed is in TIMER mode, that speed may turn on when the PoolCop/SPACE unit is requesting the pump to stop.                 |
| <b>External Ctrl:</b>               | Set the speeds for Programs 1, 2, and 3 as required; these speeds can be selected by the PoolCop/SPACE unit via IntelliComm.<br>Make sure Program 4 is set to 450rpm (minimum speed). |
| <b>Priming:</b>                     | Set to DISABLED.  |
| <b>Anti-freeze:</b>                 | Set to DISABLED.  |

## OPERATION NOTES

### IntelliFlo VSD and VSF

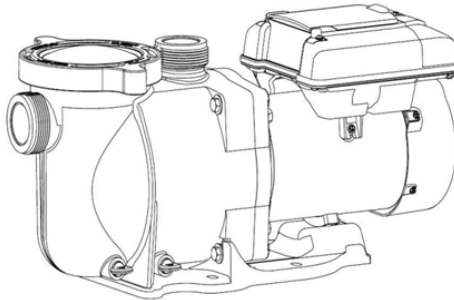
- It is recommended that once installed, all pump control is performed from the PoolCop/SPACE ONLY. Do not start the pump from the pump panel as this inhibits PoolCop/SPACE control.
- The VSD defaults to the last speed and state selected on the pump keypad. For this reason, the pump should always be left in the OFF condition. This allows the PoolCop/SPACE to start and stop the pump and manage speeds.
- The pump can be started manually outside filtration cycles and stopped during filtration cycle using PoolCop/SPACE manual pump control.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump keypad, the linked speed will be reset for the next filtration cycle.
- DO NOT start or stop the pump from the pump control panel.

### IntelliFlo VSF3

- Disable all scheduled programs on the pump.
- Check and adjust priming settings if required by the installation.

# 4 PENTAIR

## 4.10.2 Pentair SuperFlo® VS & VS2



### WARNING:

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

### CONNECTING THE PUMP

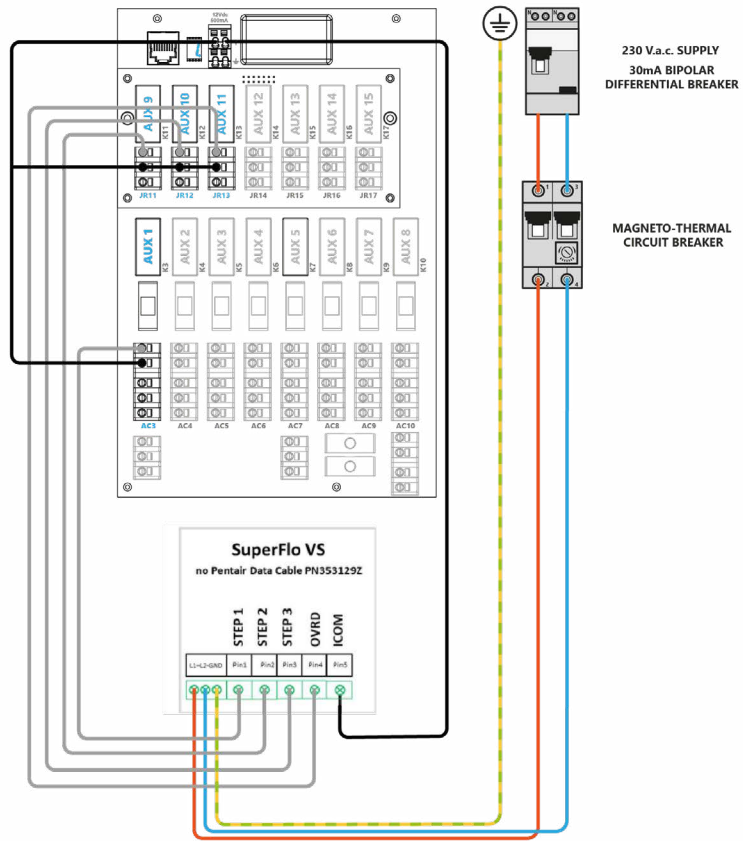
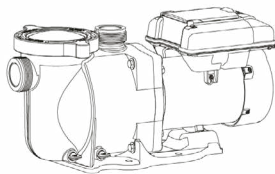
Power must be supplied to the pump via an external breaker.

**Pentair SuperFlo® VS** and **VS2** provide 8 preset, user-adjustable pump speeds.

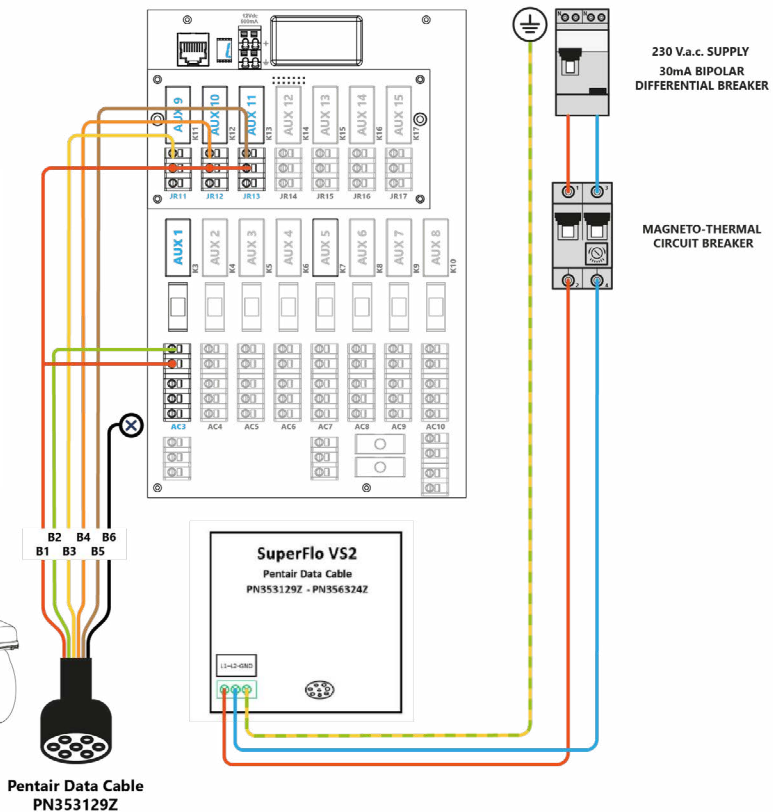
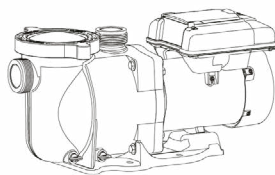
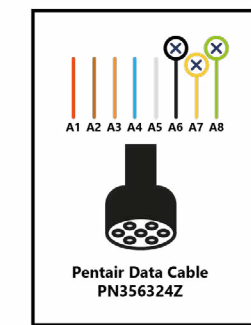
The pump is permanently powered, and the PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Pentair SuperFlo VS   | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | OFF   | OFF    | OFF    |
|                       | 2     | ON    | ON    | OFF    | OFF    |
|                       | 3     | ON    | OFF   | ON     | OFF    |
|                       | 4     | ON    | OFF   | OFF    | ON     |

# 4 PENTAIR



Wiring exemple with SuperFlo VS



Wiring exemple with SuperFlo VS2

# 4 PENTAIR

---

## PROGRAMMING THE PUMP



**NOTE:**

Select **PENTAIR SuperFlo VS** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

### SuperFlo VS

- No specific steps are required to slave the SuperFlo VS to the PoolCop/SPACE unit: the digital inputs on the pump have the highest priority over all other inputs (keypad or digital). Therefore the User Interface inputs will be ignored when digital inputs are present.
- If no automation input is detected, the pump will automatically start the 24 hour schedule if the START key was pressed before the automation input was applied.

### SuperFlo VS2

- Stop the pump using the START/STOP button.
- Press and hold the START/STOP button for more than 3 seconds until the "Ext\_Ctrl\_Only" LED turns on.
- Press the START/STOP button again to allow the pump to run in External Control Only mode.

## OPERATION NOTES

- The pump can be started manually outside filtration cycles and stopped during a filtration cycle using the PoolCop/SPACE manual pump control.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.

# 4 SACI

## 4.11 SACI

### 4.11.1 SACI [e]Joy & [e]Pool controllers

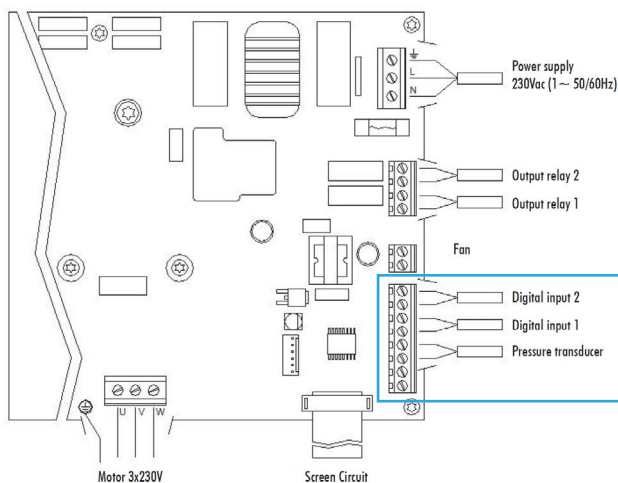


**WARNING:**

The information is for guidance only. Follow the manufacturer’s recommendations as per the latest equipment manual at all times. No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

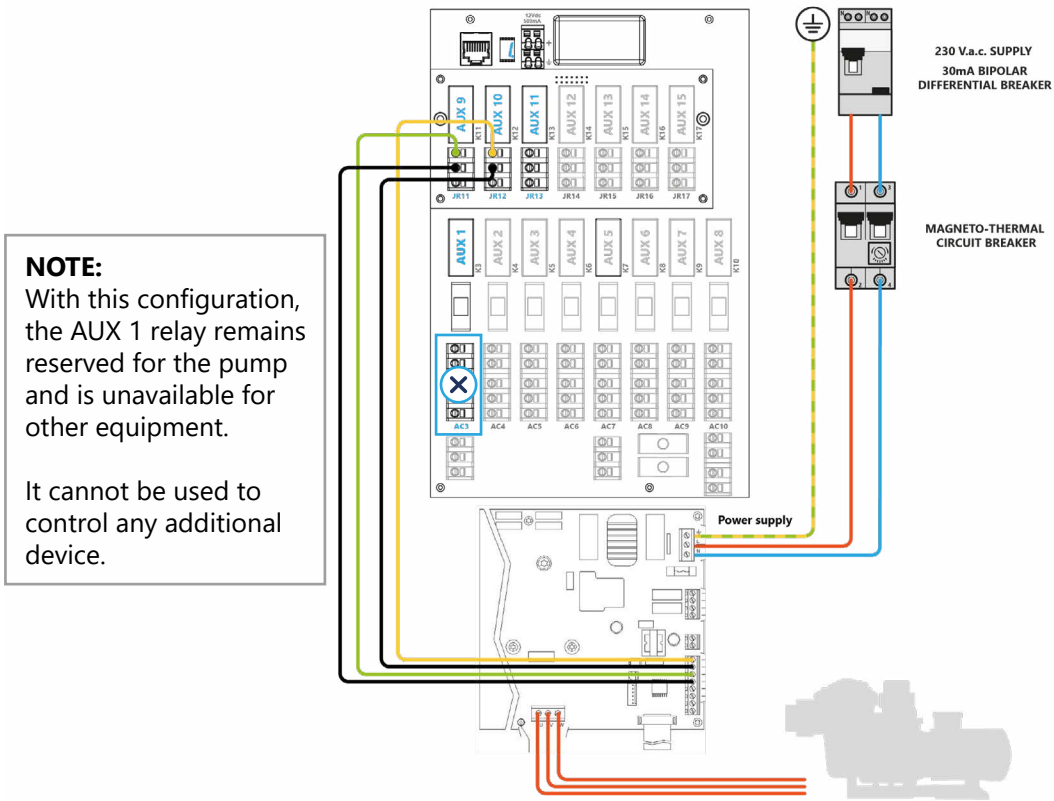
### CONNECTING THE CONTROLLER

Power must be supplied to the pump via an external breaker.



| SACI [e]Joy & [e]Pool | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | ON    | OFF    | OFF    |
|                       | 2     | ON    | OFF   | ON     | OFF    |

# 4 SACI



## PROGRAMMING THE CONTROLLER



### NOTE:

Select **SACI** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

- GENERAL CONFIGURATION:
  - Configure motor nominal current (parameter 1.3) and the check rotation direction (parameter 1.4)
- FILTRATION:
  - Reset all filtration bands (parameters 2.01 to 2.97).
- SKIMMING:
  - If required, set the skimming interval (parameter 5.02) and skimming speed (parameter 5.03). This will override the selected speed for the programmed skimming duration.
- INPUTS OUTPUTS:
  - Set digital input 1 as fixed speed (parameter 7.01).
  - Set the fixed speed for input 1 (parameter 7.02).
  - Set digital input 2 as fixed speed (parameter 7.03).
  - Set the fixed speed for input 2 (parameter 7.04).
  - It is recommended to set parameter 7.04 higher than parameter 7.02.

# 4 SACI

---

- ADVANCED CONFIGURATION:
  - Check the motor nominal frequency (parameter 8.01).
  - Set the maximum filter pressure (parameter 8.04) according to the installation.
  - Configure dry-running protection (parameters 8.06 and 8.07).
  - Set the priming time as required (parameter 8.08).

After programming, press **AUTO** to set the pump in normal operation mode.

If **STOP** is pressed, the pump stops regardless of the speed selected on the digital inputs.

# 4 SCHNEIDER

## 4.12 SCHNEIDER

### 4.12.1 Schneider ATV212



#### WARNING:

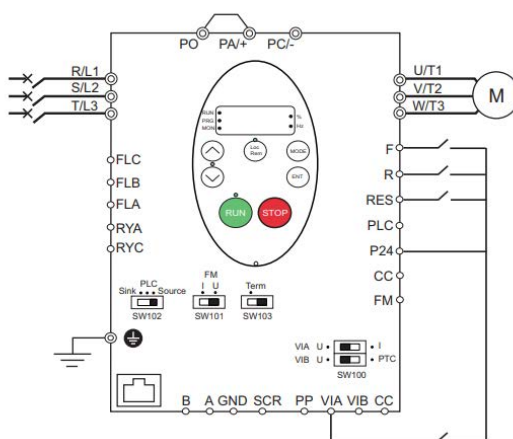
The information is for guidance only.

Follow the manufacturer's recommendations as per the latest equipment manual at all times.

No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

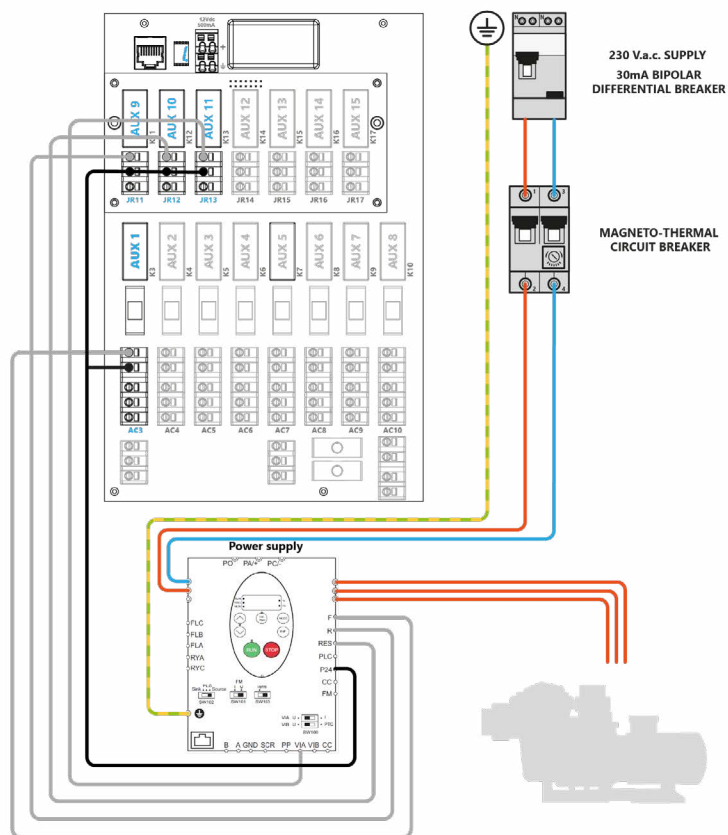
## CONNECTING THE CONTROLLER

Power must be supplied to the pump via an external breaker.



# 4 SCHNEIDER

| Schneider ATV212      | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | ON    | OFF    | OFF    |
|                       | 2     | ON    | OFF   | ON     | OFF    |
|                       | 3     | ON    | ON    | ON     | OFF    |
|                       | 4     | ON    | OFF   | OFF    | ON     |
|                       | 5     | ON    | ON    | OFF    | ON     |
|                       | 6     | ON    | OFF   | ON     | ON     |
|                       | 7     | ON    | ON    | ON     | ON     |



## PROGRAMMING THE CONTROLLER



### NOTE:

Select **SCHNEIDER ATV212** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

# 4 SCHNEIDER

---

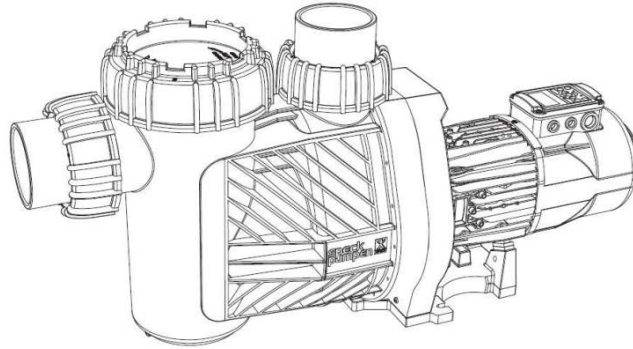
- Set switch SW102 to source.
- Program the common ATV212 parameters (see the ATV212 guide), then program the preset-speed parameters as shown in the following table.

| PARAMETER                  | SETTING                | FACTORY VALUE    |
|----------------------------|------------------------|------------------|
| F109 [VIA selection]       | 2 [LI source]          | 0 [Analog Input] |
| F111 [LIF selection]       | 2 [forward]            | 2 [forward]      |
| F112 [LIR selection]       | 6 [PS1]                | 6 [PS1]          |
| F113 [LIREs selection]     | 7 [PS2]                | 10 [Fault Reset] |
| F118 [VIALI selection]     | 8 [PS3]                | 7 [PS2]          |
| Sr1 [Present speed speed1] | Above or equal to 15Hz | 15.0             |
| Sr2 [Present speed speed2] | Between Sr1 and Sr3    | 20.0             |
| Sr3 [Present speed speed3] | Between Sr2 and Sr4    | 25.0             |
| Sr4 [Present speed speed4] | Between Sr3 and Sr5    | 30.0             |
| Sr5 [Present speed speed5] | Between Sr4 and Sr6    | 35.0             |
| Sr6 [Present speed speed6] | Between Sr5 and Sr7    | 40.0             |
| Sr7 [Present speed speed7] | Above or equal to 50Hz | 45.0             |

# 4 SPECK

## 4.13 SPECK

### 4.13.1 Speck BADU 90 Eco Motion



#### **WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

### **CONNECTING THE PUMP**

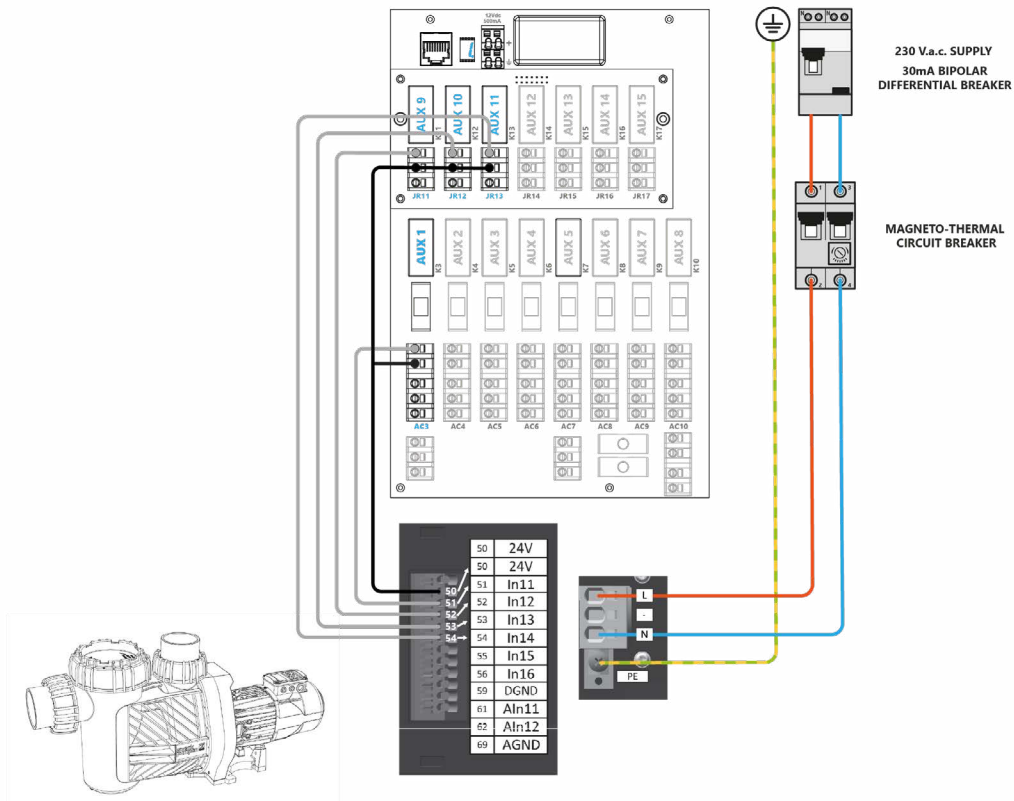
Power must be supplied to the pump via an external breaker.  
External control provides up to 6 fixed speeds; the PoolCop/SPACE unit selects one of the first 4 speeds.

The pump is normally delivered with safety loops fitted between terminals S1 and S2 and the internal 24V supply. These loops provide an alternative way to stop the pump using an external safety contact when the loop is opened. Make sure both loops remain closed; otherwise, the PoolCop/SPACE unit will not be able to start the pump.

The PoolCop/SPACE unit controls pump start/stop and speeds using low-voltage control signals via the Aux 9 to Aux 11 relays, which must be connected as dry (potential-free) contacts.

| <b>BADU 90 Eco Motion</b>    | <b>SPEED</b> | <b>AUX 1</b> | <b>AUX 9</b> | <b>AUX 10</b> | <b>AUX 11</b> |
|------------------------------|--------------|--------------|--------------|---------------|---------------|
| <b>Output relay statuses</b> | <b>STOP</b>  | <b>OFF</b>   | <b>OFF</b>   | <b>OFF</b>    | <b>OFF</b>    |
|                              | <b>1</b>     | <b>ON</b>    | <b>OFF</b>   | <b>OFF</b>    | <b>OFF</b>    |
|                              | <b>2</b>     | <b>ON</b>    | <b>ON</b>    | <b>OFF</b>    | <b>OFF</b>    |
|                              | <b>3</b>     | <b>ON</b>    | <b>OFF</b>   | <b>ON</b>     | <b>OFF</b>    |
|                              | <b>4</b>     | <b>ON</b>    | <b>OFF</b>   | <b>OFF</b>    | <b>ON</b>     |

# 4 SPECK



## PROGRAMMING THE PUMP



### NOTE:

Select **BADU Eco Motion** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

Eco Motion allows you to configure up to 6 external speeds, N1 to N6, between 35% to 100% (refer to pump manual). **PoolCop / SPACE will only use N1 to N4.**

- BADU 90 Eco Motion includes many built-in automation functions (e.g. backwash, filter programs, cleaner, party, purge) that can control the pool independently. These functions are part of the pump's own automation and will not be used when the pump is connected to PoolCop / SPACE, because the unit remains the main controller.
- In practice, backwash, filter, pool cleaner, party and purge modes will not be used and will be set to OFF.
- External control will be enabled in MENU / EXTERNAL with the following settings:
  - Set EXTERNAL to FIXED SPEED
  - Set SIGNAL to CONTINUOUS
  - Set N1 to the lowest speed (in % or rpm according to the selection in MENU/BASIC SETTINGS/DISPLAY)
  - Set N2 higher than N1 (in % or rpm according to choice)
  - Set N3 higher than N2 (in % or rpm according to choice)
  - Set N4 at the highest speed (in % or rpm according to choice)

# 4 SPECK

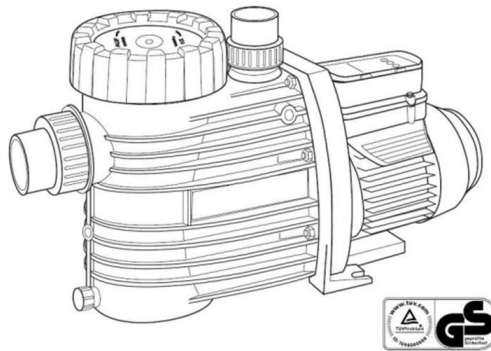
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## **OPERATION NOTES**

- The pump can be started manually outside filtration cycles and stopped during a filtration cycle using the PoolCop/SPACE manual pump control.
- The pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump, the linked speed will be reset at the next filtration cycle.

# 4 SPECK

## 4.13.2 Speck BADU Eco - Touch, Touch-pro, Flow, Eco VS and Delta Eco VS



### WARNING:

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.



### IMPORTANT:

PoolCop/SPACE uses an active signal (closed relay contact) to stop the pump. For this reason, the unit must never be switched OFF while the pump is RUNNING.  
If this happens, the pump can only be stopped by opening the circuit breaker.

**Speck BADU Eco Touch-pro** and **Eco Flow** pumps are fully controllable at the 3 user-configured speeds, and the priming speed and priming duration are user-configurable.

The **Speck BADU Eco Touch** pump is fully controllable at the 3 factory-configured speeds of 2000, 2430 and 2830 rpm.



### NOTE:

When the pump is switch on, the top speed (2830 RPM) is always activated for 5 minutes to prime the pump.

When switching via the external PoolCop/SPACE relays, the linked speed is not activated until this 5 minute priming period is completed.

# 4 SPECK

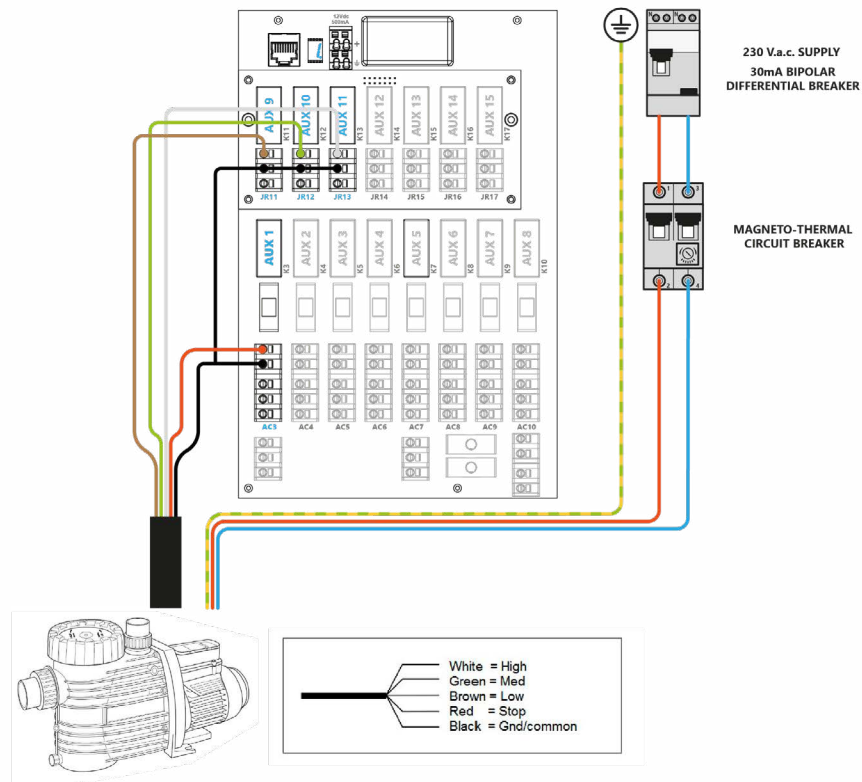
## CONNECTING THE PUMP

Power must be supplied to the pump via an external breaker.  
Depending on versions, the pump may be delivered with a 5-wire or a 10-wire cable.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

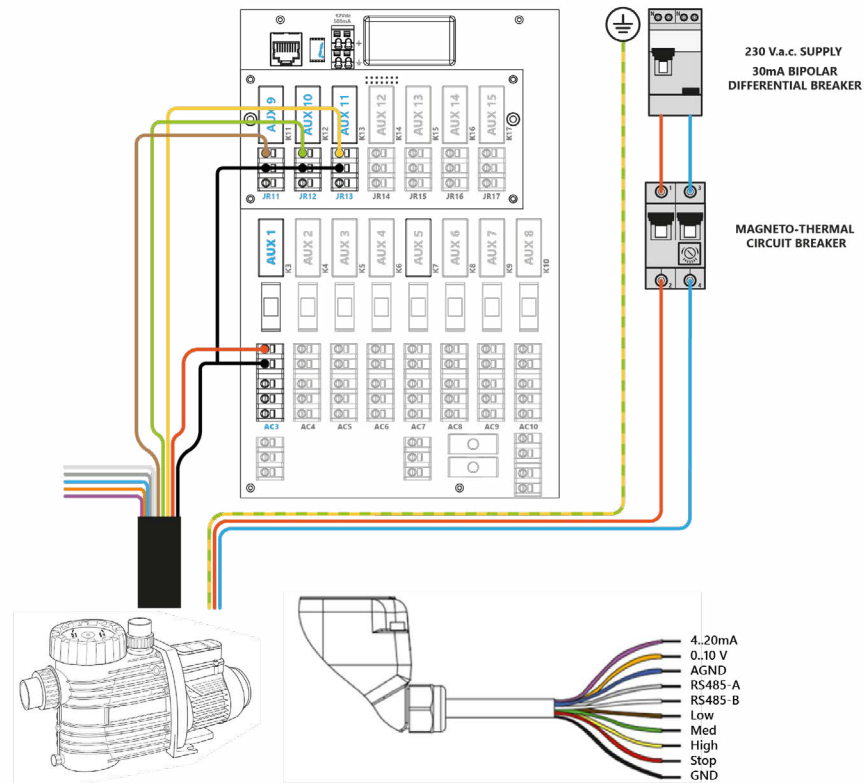
| Badu Eco Touch-Pro    | SPEED | AUX 1    | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|----------|-------|--------|--------|
| Output relay statuses | STOP  | PULSE ON | OFF   | OFF    | OFF    |
|                       | 1     | OFF      | ON    | OFF    | OFF    |
|                       | 2     | OFF      | ON    | ON     | OFF    |
|                       | 3     | OFF      | OFF   | ON     | ON     |

### 5-wire cable connection:



# 4 SPECK

## 10-wire cable connection: (ex: Delta Eco VS)



## PROGRAMMING THE PUMP



### NOTE:

Select **BADU Eco Touch-Pro** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

## Badu Eco Touch-Pro and Eco Flow

The Touch-pro version allows you to adjust the three speeds between 1,000 rpm and 2,830 rpm in 50 rpm increments (refer to the pump manual). These settings are made while the pump is running. Use the PoolCop/SPACE manual command menu to start the pump at the speed you want to set, then follow the pump instruction manual to adjust the speed.

Priming speed and priming time are also programmable. This can only be done when the pump is stopped, and is not possible while a stop command is being requested by PoolCop/SPACE.

To allow these settings, proceed as follows:

- From the PoolCop/SPACE manual command menu, start the pump on speed 1.
- On the pump keypad, press '0' to stop the pump.
- Follow the manual instructions to adjust priming speed and time.
- When the operation is complete, use the PoolCop/SPACE manual command menu to confirm pump OFF.

**Note:** If the setup operation takes more than 8 minutes, PoolCop/SPACE will confirm pump OFF and display the error message: «no pressure». This does not affect further use.

# 4 SPECK

---

## BADU ECO VS

Refer to BADU Touch-pro and Eco Flow Programming above for speeds and priming settings.

To enable remote control:

- Enter the pump setup menu (press the "S" button for 3 seconds)
- Enable external control by Digital Inputs (menu item "E" set to "dl")
- Set switching behaviour "0" to close (menu item "0" set to "cl")

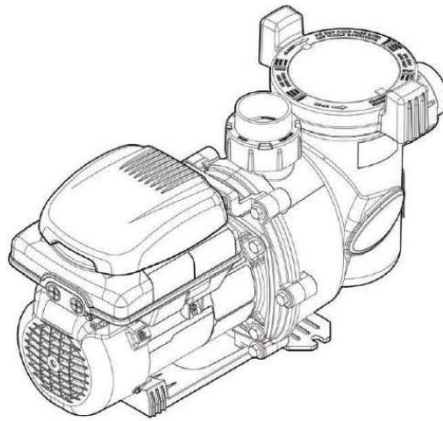
## OPERATION NOTES

- The pump can be started manually outside filtration cycles and stopped during a filtration cycle using the PoolCop/SPACE manual pump control.
- Pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually selects a different pump speed on the pump keypad, the linked speed will be reset for the next filtration cycle.
- The Speck BADU Eco Touch pump will always run at high speed for approximately 5 minutes when started; linked speeds become active only after this initial priming period.  
***This does not apply to the Eco Touch-Pro and Eco Touch Flow pumps***
- Linking the high speed to "Clean" in the Pump Data menu ensures that the higher speed is maintained if a long automatic or manual backwash or rinse is commanded.
- Once connected to PoolCop/SPACE, speed control on the pump keypad is inhibited.
- If the pump is stopped using the pump keypad, it must be restarted from the PoolCop/SPACE Manual Control menu: first send a STOP command, then a START command. The pump will then restart under PoolCop/SPACE control.

# 4 ZODIAK

## 4.14 ZODIAK

### 4.14.1 Zodiac FloPro VS 1



**WARNING:**

The information is for guidance only.  
Follow the manufacturer's recommendations as per the latest equipment manual at all times.  
No responsibility will be accepted for changes to the pump specifications or for incorrect connection, control and programming of the pump.

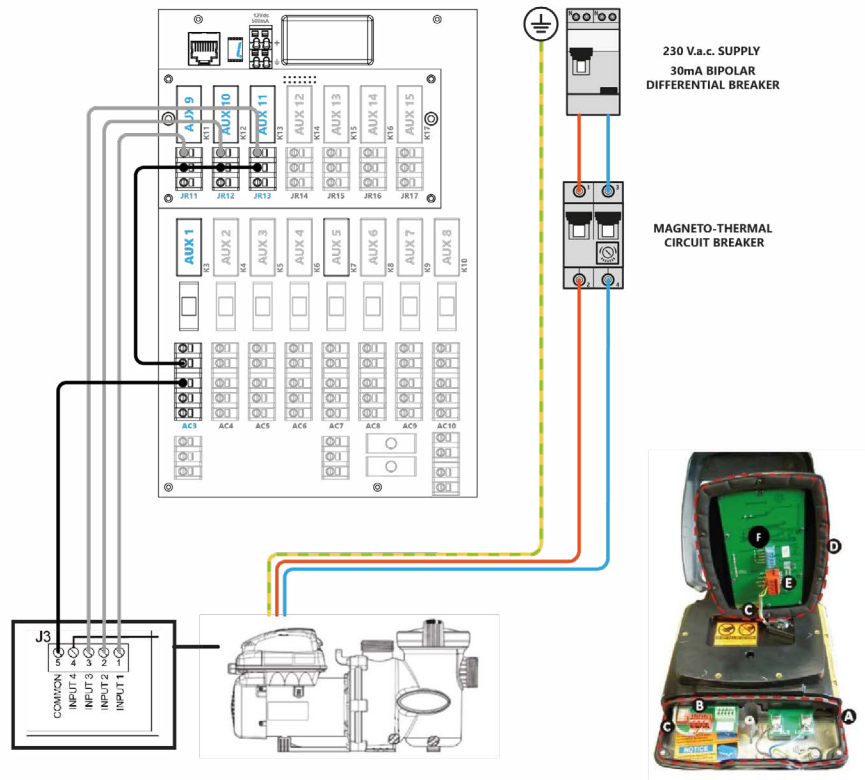
### CONNECTING THE PUMP

Single phase power must be supplied to the pump via an external breaker.  
The pump provides a low-voltage polarity output to power the external speed-control inputs.

The PoolCop/SPACE unit controls start/stop and speeds using low-voltage control signals via the Aux 1 and Aux 9 to Aux 11 relays, wired as dry (potential-free) contacts.

| Zodiac FloPro VS      | SPEED | AUX 1 | AUX 9 | AUX 10 | AUX 11 |
|-----------------------|-------|-------|-------|--------|--------|
| Output relay statuses | STOP  | OFF   | OFF   | OFF    | OFF    |
|                       | 1     | ON    | ON    | OFF    | OFF    |
|                       | 2     | ON    | OFF   | ON     | OFF    |
|                       | 3     | ON    | OFF   | OFF    | ON     |

# 4 ZODIAK



**NOTE:**

Use the blue terminal block (F) on the underside of the user interface to connect the external control wires.

The pump manufacturer recommends using the optional interface remote kit to route the cables correctly.

## PROGRAMMING THE PUMP



**NOTE:**

Select **ZODIAC FloPro** in Pump Settings  
Refer to sections 2 and 3 in this manual for the filtration set up instructions.

# 4 ZODIAK

---

FloPro VS allows you to configure up to 3 speeds; "eStar" (speed 1) and speed 2 will be used by PoolCop/SPACE.

To allow external speed control, the user interface must be remotely mounted so that the control cable can pass through the base cable pass-through (see the "Instructions for installation and use" manual).

- Selecting the "eStar" (speed 1) value: Enter the service menu, select "set eStar speed", then use the UP and DOWN arrows to set the speed.
- Selecting speed 2 and speed 3 values: While the pump is running at the desired speed, use the UP and DOWN arrows to adjust the rpm; the new speed is stored automatically when you leave the adjustment.
- Antifreeze must be disabled.  
Disabling antifreeze: Enter the service menu, select "pump freeze protect", then use the DOWN arrow to set the time to "0:00".
- The timeclock for «eStar» and speed 2 must be disabled.  
Disabling the timeclock for "eStar" and speed 2: First start the pump at the corresponding speed, then press MENU, set "timeclock" to "disable", and press MENU again to confirm. Repeat this operation for "eStar" and for speed 2.

## OPERATION NOTES

- Pump can be started manually outside filtration cycles and stopped during filtration cycle using the PoolCop/SPACE manual pump control.
- Pump speed can be changed while the pump is running using the PoolCop/SPACE manual pump control.
- If, during a programmed filtration cycle, the user manually changes the pump speed on the pump interface, the linked speed will be reset to the PoolCop/SPACE setting at the next filtration cycle.

# PoolCop

 DRYDEN AQUA

# SPACE

## USER GUIDE



DATE: **March 2026**  
PRODUCT: **PoolCop Infinity**  
MANUAL: **VSP50EN**  
FIRMWARE: **V50**



**PCFR**PoolCop

PCFR SAS - 130 Boulevard du Nord, 84160 Cucuron, France  
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