



## SP AC Coupling Installation Notes

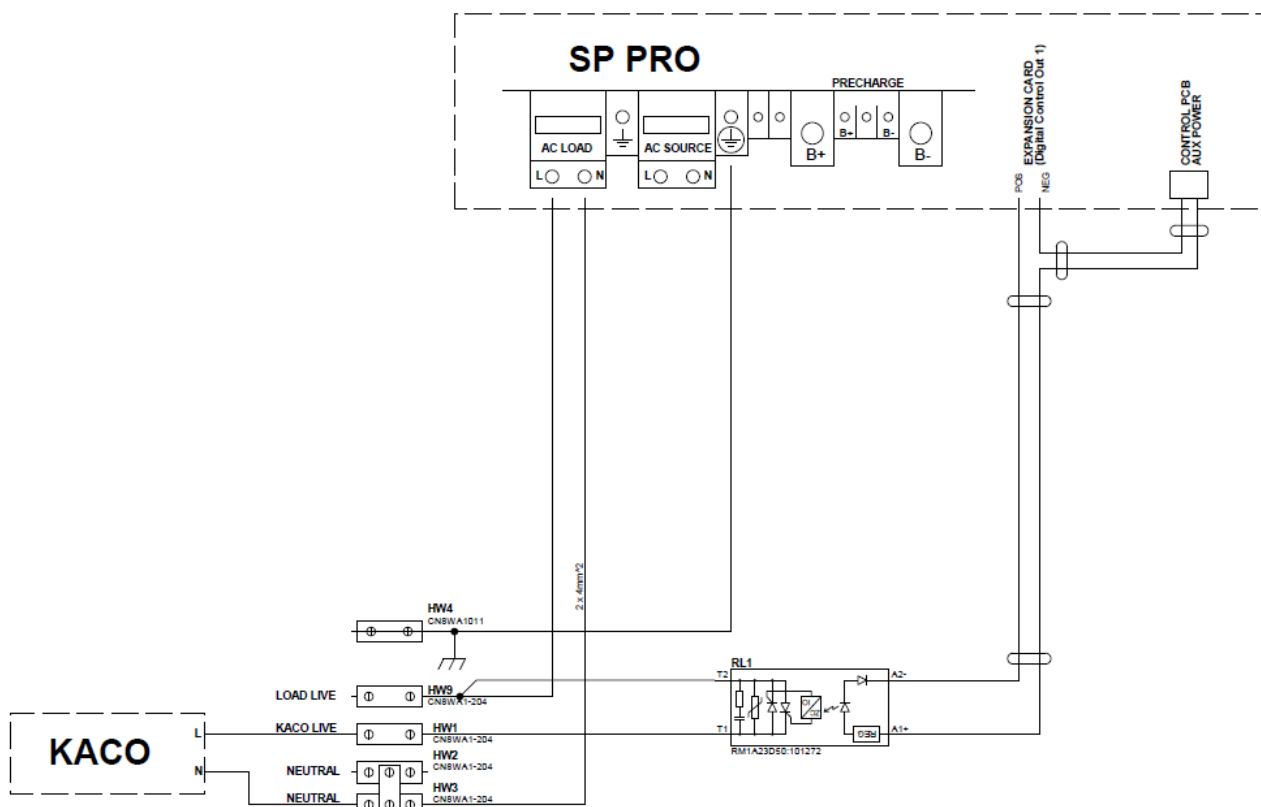
### Introduction

SP AC Coupling Installation Notes detail the addition of the Expansion Housing and connection of a KACO Powador unit to the SP PRO. The Expansion Housing secures to and extends below the SP PRO unit and contains the additional components required. The expansion housing also allows for the bottom and rear cable entry.

*Note: This document needs to be read in conjunction with the SP PRO Instruction Manual*

### Wiring Overview

The following is an overview of the internal and external connections which form part of the AC Coupled Expansion housing.



# SP PLUS

## Installation Notes



### Installation

The KACO unit should be installed as per installation instructions adjacent to the SP PRO. The AC connection of the KACO connects into the Expansion Housing and a serial data cable connects between the KACO unit and the SP PRO.

The SP PRO unit is installed as per the installation instructions in the user manual.

Additional instructions are listed below against each step.

#### Step 4

Allow an extra 300mm below the SP PRO to accommodate the expansion housing.

#### Step 6

Remove gland plate and fan assembly as shown. The gland plate and attached fan are replaced by the expansion housing. The fan and fan filter are re-used in the expansion housing.

Retain two side screws and loosen internal screws for re-use retaining the expansion housing.

**Complete following steps before continuing with SP PRO installation.**

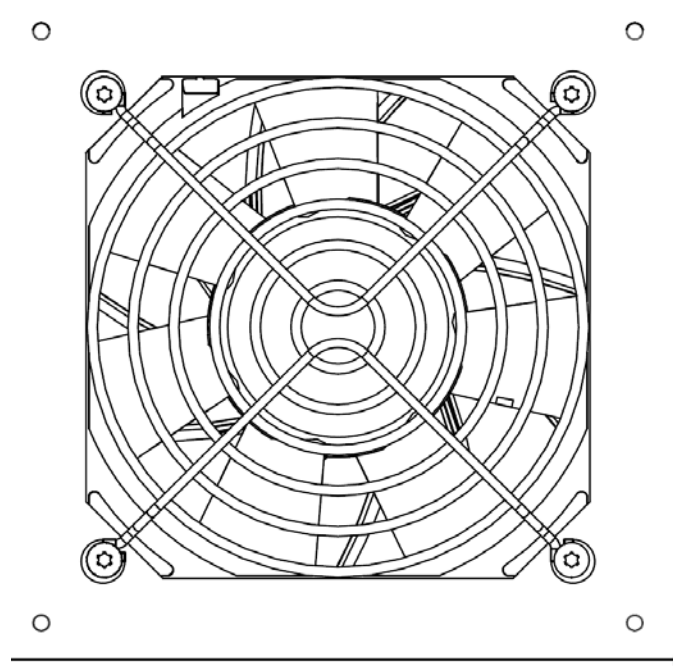
# SP PLUS Installation Notes



## Fan Refit

The fan and fan filter supplied with the SP PRO need to be re-fitted onto the extension housing.

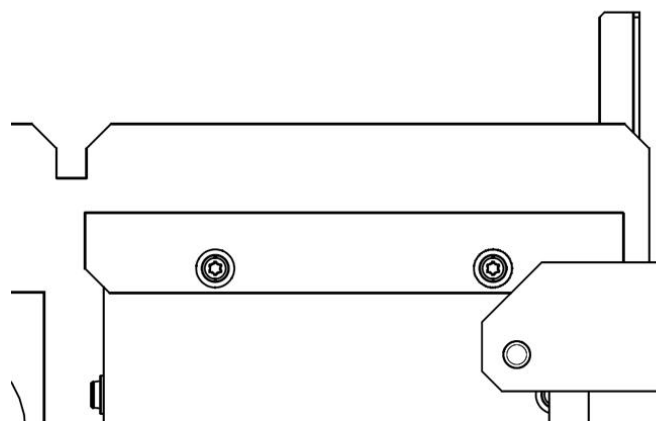
Remove and retain the fan filter and four fan thumb nuts from the gland plate.



*SP PRO Gland Plate Showing Fan Guard and screws – Fan filter not shown.*

Undo and retain the four fan screws and fan from the gland plate. The fan guard is not required.

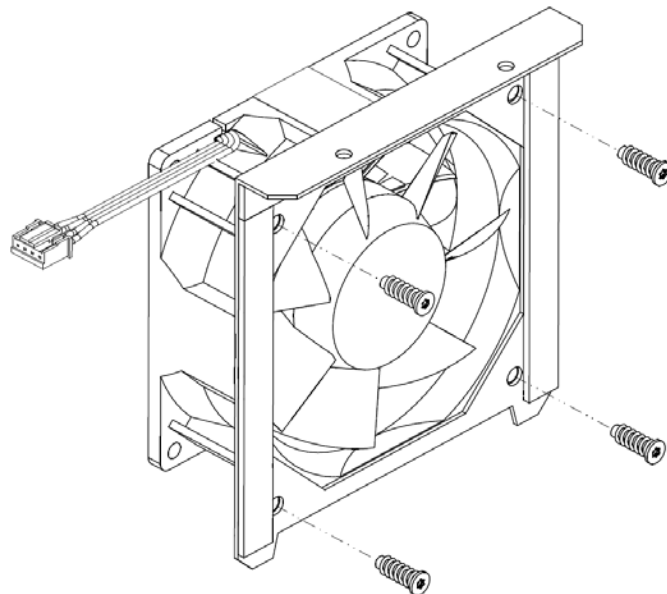
Undo and retain four screws of the front cover of Expansion Housing. Disconnect the front cover Earth wire and remove front cover.



*Extension Housing Fan Mounting Plate*

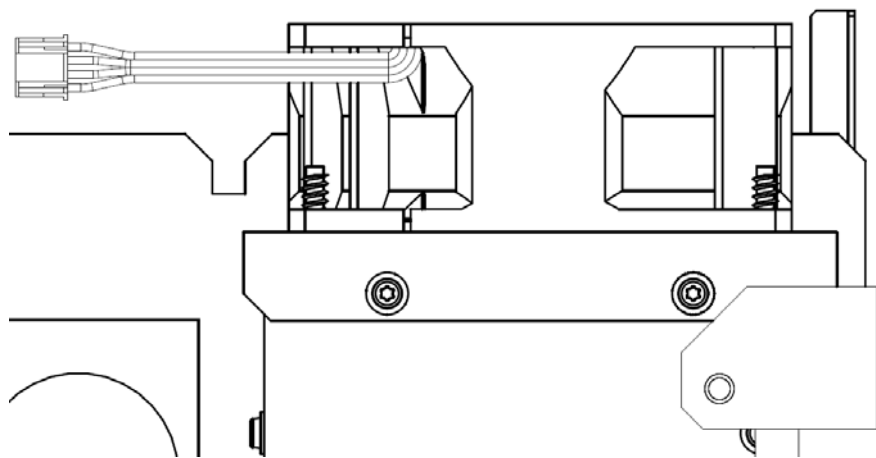
Locate Extension Housing Fan mounting plate. Undo two retaining screws and remove plate.

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*Fan mounting showing correct orientation – rotor visible*

Fit fan to mounting plate as shown taking care to observe correct fan orientation and cable position.



*Fan assembly mounted into Extension Housing*

Re-fit Fan Mounting plate into Expansion Housing.

Re-fit Fan Filter to bottom of expansion housing.

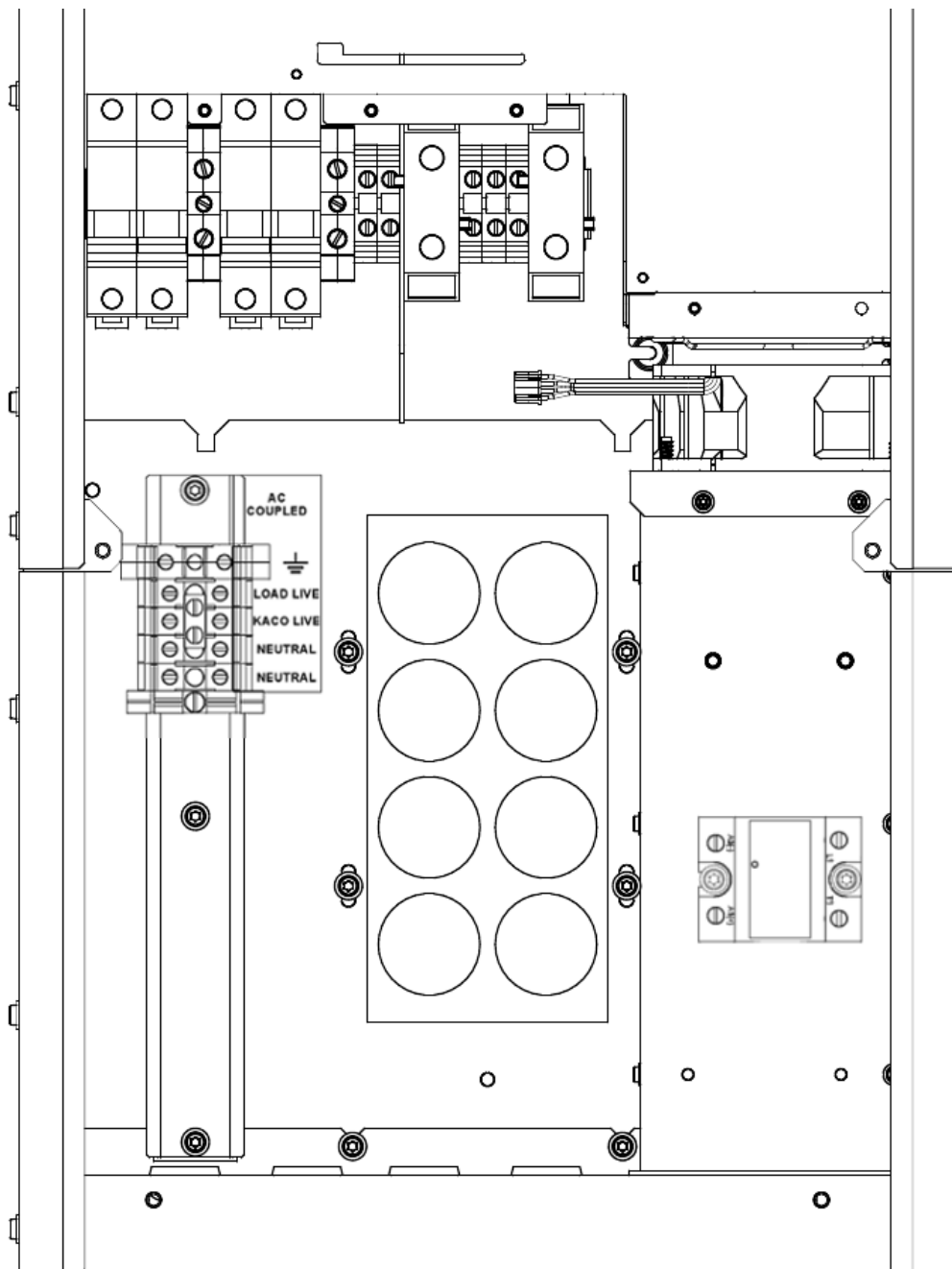
# SP PLUS Installation Notes



## Install Expansion Housing to SP PRO

Slide top flanges underneath the SP PRO base plate and guide the sides inside the SP PRO cover. The Expansion housing may require to be tipped up slightly to allow the top flange to slide into the internal retaining screws.

Tighten the internal screws and re-fit the two side screws to secure the Expansion Housing to the SP PRO.



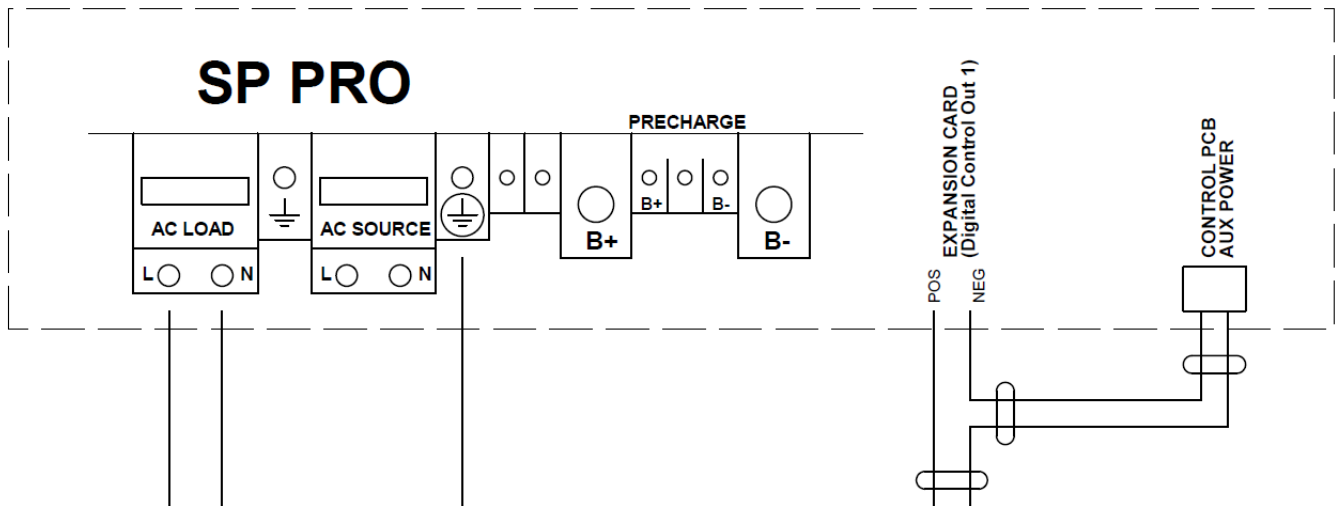
*Note: Supplied internal wiring not shown for clarity. Picture shows rear cable entry gland plate and DIN rail for additional equipment*

# SP PLUS Installation Notes



## Expansion Housing Internal Wiring

The expansion housing contains additional internal wiring. Connect as detailed below



### AC Wiring

Load Live (Red cable in black sleeve) -> AC Load L  
Neutral (Black) -> AC Load N  
Earth (Green/Yellow) -> Earth

### Control Wiring

Control Switch (Blue) -> Expansion Card Digital Ctrl Out 1 POS  
Control Negative (Black) -> Expansion Card Digital Ctrl Out 1 NEG  
Control Supply Plug -> AUX POWER connector

### Data Cable

Serial data cable from DB9 Female connector on bottom of KACO unit into Serial Port 2 adjacent to AUX POWER connector.

*Note: It may be more convenient to fit Control and Data cabling after all AC and DC wiring completed.*

### ... continue SP PRO Installation

The SP PRO unit is installed as per the installation instructions in the user manual.

Additional instructions are listed below against each step.

#### Step 7

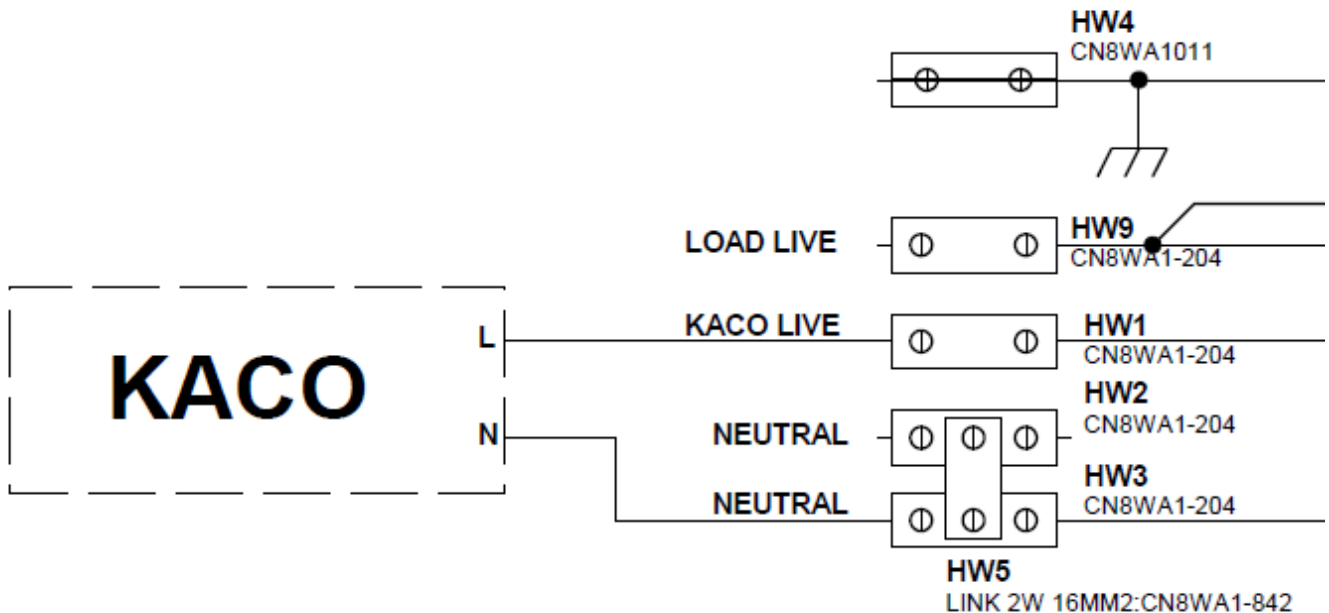
Battery Back Up loads connect into the Load Live and Neutral terminals within the expansion housing. Only the expansion housing wiring connects into the SP PRO AC Load terminals.

# SP PLUS Installation Notes



## KACO AC Wiring

The KACO unit is wired into the expansion housing as shown.



*Note: DC wiring, AC circuit breakers and Earth Wire to KACO not shown for clarity.*

## ... continue SP PRO Installation

The SP PRO unit is installed as per the installation instructions in the user manual.

Additional instructions are listed below against each step.

### Step 8

Once all wiring is completed, connect the front cover Earth wire and refit the expansion housing cover using four screws. SP PRO cover plate removed prior to installation can be refitted and will now secure to the expansion housing front cover.

# SP PLUS Installation Notes



## KACO Port Configuration

The serial port on the KACO unit must be set to RS232.

See Level 2 menu - page 9 of the KACO Operating Instructions – and Select Interface to RS232.

## SP PRO Configuration – Additional AC Coupling Configuration Settings.

### INPUTS AND OUTPUTS

The External Regulator Bypass Output and External Regulator Control Output must be set to None and the AC Coupled Inverter Output must be set to Digital Control Output 1 as shown below.

Extern. Regulator Outputs	AC Coupled Inverter Output
<b>External Regulator Bypass Output*</b> None	<b>AC Coupled Inverter Output*</b> Digital Control Output 1
<b>External Regulator Control Output*</b> None	

### System

The communications link between the SP PRO and the KACO must be enabled. Set KACO Com Port to Port 2 as shown below.

Communication	Enable KACO Link
<b>Port 1 Baud Rate</b> 57600	<b>KACO Com Port*</b> Port 2
<b>Port 1 DTR/DCD</b> Enabled	
<b>Port 2 Baud Rate</b> 9600	
<b>Port 2 DTR/DCD</b> Enabled	

*Note: Port 2 Communication settings will not be available once KACO Com port has been enabled. This is normal operation.*

### Additional Information

Selectronic web site – <http://www.selectronic.com.au> or contact the Selectronic Sales Team.

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[www.selectronic.com.au](http://www.selectronic.com.au)