

## SAFETY

All equipment designed and manufactured by Sollatek (UK) Ltd complies with the latest safety codes of practice. You should still follow all safety instructions and use caution when installing and operating electrical equipment.

To avoid the risk of a shock, DO NOT expose this equipment to rain, moisture, or liquid spillage. Before attempting to use it, ensure that the contactor solenoid does not exceed 16 amps. The equipment load must not exceed the contactor rating.



## START-UP



When the AVS3P is powered up, it will enter Wait Mode and your equipment will remain OFF.



After the wait time has elapsed, the AVS3P connects the supply to turn your equipment ON.

## Start-up Error



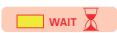
All three phases must be sensed in order to operate. If on power up one or more phases cannot be sensed, the AVS3P will remain in the off position. Equipment will remain OFF.



## STANDARD OPERATION



High Voltage. Equipment OFF



Good Voltage, recovered from high voltage. AVS3P in Wait Mode, equipment OFF



Good Voltage. Equipment ON



Good Voltage, recovered from low voltage. AVS3P in Wait Mode, equipment OFF



Low Voltage. Equipment OFF

The AVS3P can also be set to protect against bad frequency (goes outside the operating range), phase imbalance (voltage deviation) and/or phase rotation (phases are swapped post-commissioning).

## WAIT MODE

Wait Mode provides voltage monitoring and protection against power-back surges and frequent power-ups by ensuring the mains power has fully stabilised before automatically reconnecting it to your equipment after the set wait time has elapsed.

The AVS3P will automatically adjust the wait time depending on the disconnection period to make the total OFF time equal to the set Wait Time. i.e. If Wait Time is 3 minutes and the disconnection is 2 minutes, then the wait time added is just 1 minute.

## TIMESAVE™

If the AVS3P has been turned OFF for more than the set wait time, The AVS3P will reconnect the supply to your loads in 10 seconds.

## LIABILITY OF THE COMPANY

- The company shall not be liable, either in contract or in tort for any loss, injury or damage of whatsoever nature or to whomsoever or by whatsoever cause arising directly or indirectly from any defect in the Goods (whether latent or apparent) or as a result of the use of the Goods (save and except any liability for death of or injury to any person resulting directly from the negligence of the company) and the customer shall fully indemnify the company against all claims and demands made upon the company by reason of any such loss or injury or damage.
- Without prejudice to the provisions of the immediately preceding sub clause the company shall not in any event be liable for consequential or indirect loss or damage howsoever arising under the contract or in relation to the Goods.
- The customer hereby acknowledges that the restrictions in this clause are fair and reasonable in the circumstances.

## WARRANTY

Unless otherwise agreed with the company or where the company has notified the customer of special terms in respect of specified categories of goods the company agrees at its option either to refund the cost of or repair or replace goods proved to the company's reasonable satisfaction to have failed under proper storage and use within 24 months of delivery by reason of defects due to faulty design (other than any design made, furnished or specified by the customer) materials or workmanship provided that:

- The customer shall have followed any instruction issued by the company in relation to the goods and their storage.
- In the case of defects which would have been apparent to the customer on reasonable examination of the goods on delivery, 'the' customer shall notify the company of the defects within 14 days of delivery.
- In the case of any other defects the customer shall notify the company of the defects in writing within 7 working days of the date when the defect becomes apparent.
- Where in discharge of its obligation under this clause the company agrees that the customer may undertake any repair work on its behalf the cost of such work shall be agreed in writing between the customer and the company before the commencement of such work.

## RETURN OF GOODS

- Goods supplied in accordance with the customer's orders cannot be accepted for return without the prior written consent of the company and in accordance with the company's returns procedure.
- The company reserves the right to levy a handling, administration or other charge of such amount as it, in its absolute discretion, decides and may deduct this from any credit allowed unless the reason for any return by the customer is due to any fault or breach of these conditions on the part of the company.
- Returned goods must be sent carriage paid at the customer's risk to the company's trading premises or to such other address as the company may direct.
- The company will not allow credit in respect of returned goods not in fully re-saleable condition.



# AVS3P-0

## USER MANUAL

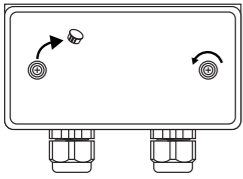
 Voltshield™  
**AVS3P-0**  
**THREE PHASE**  
**AUTOMATIC VOLTAGE SWITCHER**



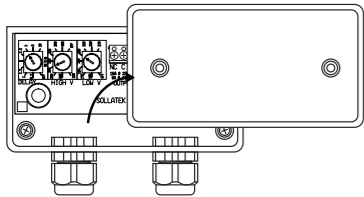
## TERMINAL COMPARTMENT

Within the Terminal compartment, there are terminals for electrical connections, unit mounting holes, and setting dials.

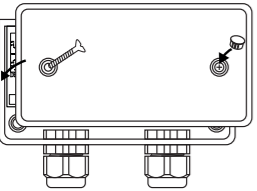
Isolate the power to the AVS3P before removing the terminal cover.



- 1) Remove the screw hole covers.
- 2) Loosen the two fixing screws and remove them from the hole.



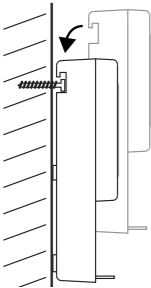
- 3) Lift the terminal cover to remove it.



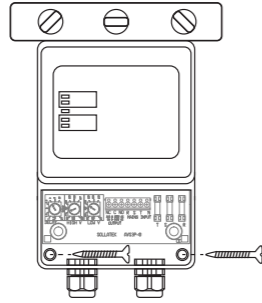
- 4) Replace and secure the terminal cover before powering ON.

## MOUNTING

- 1) Mark and drill the top mounting hole

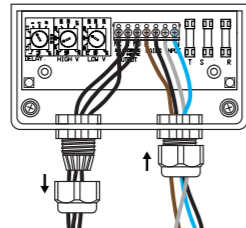


- 2) Use an appropriate wall fixing to fasten a screw into the hole, leaving the screw extruding about 10 mm.
- 3) Hang the AVS on the protruding screw using the notch on the back of the AVS3P.



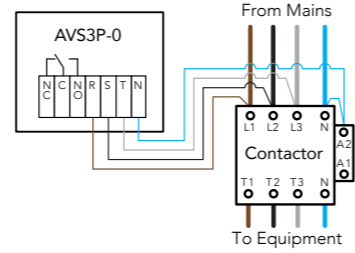
- 4) Ensure the unit is level before marking and drilling the two bottom mounting holes.
- 5) If wall fixings are required, remove the AVS3P from the wall and insert fixings into the wall. Replace the AVS3P on the top screw.
- 6) Tighten 2 screws into the bottom mounting holes to secure the AVS3P to the wall.

## AVS3P WIRING



- 1) Insert the wires through the gland nut and the glands.
- 2) Connect the corresponding wires to the AVS3P terminals.
- 3) Tighten the cable gland nuts and secure the terminal cover in place.

## ELECTRICAL CONNECTIONS



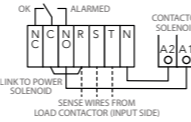
- 1) Connect sensing cables from L1 to R, L2 to S and L3 to T. Connect the neutral to A2 and N.

The output from the AVS3P is a changeover relay with volt-free contacts.

- Good Voltage: C connects to NO
- Bad Voltage/wait mode: C connects to NC

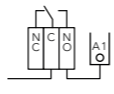
### 2a) Contactor

- Connect NO to A1
- Connect C to L1



### 2b) Control Circuit

- Connect NO to A1
- Connect C to the external controller/control circuit



### 2c) Remote Monitoring

- Connect NC to the stop control
- Connect NO to the start control
- Connect C to the 24 Vdc supply

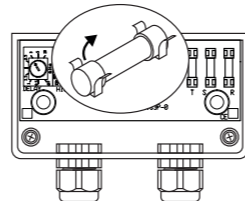


## REPAIR/MAINTENANCE

The internal surge protection fuse may blow during a severe surge.

Only a qualified person should carry out repairs. Ensure power is isolated.

- 1) Remove the terminal cover.

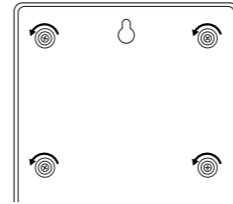


- 2) Ensure to replace the fuse with a fuse of the same type and rating: 5.0A HBC anti-surge fuse (20x5mm).

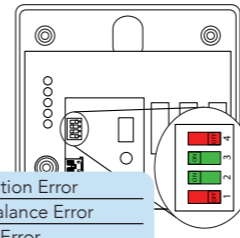
## ENABLE ADDITIONAL PROTECTION

Phase rotation, voltage phase imbalance & frequency error, can be enabled via the switches inside the top compartment.

Ensure power is isolated before removing the top cover.



- 1) Remove the 4 screws from the rear of the unit and then remove the cover.



### Detection

- 1 Phase Rotation Error
- 2 Phase Imbalance Error
- 3 Frequency Error
- 4 Not Connected

- 2) Turn ON the required function(s) by sliding the switch from right to left.
- 3) Replace and secure the top cover before powering ON.

LED	Optional Settings (Dip switches 1 to 3, one at a time)				Standard Functions (Thumbwheel settings)		
	4	3	2	1	LVD	HVD	DELAY
High. OFF	✓	✓	✓	✗	✓		No LED indication other than WAIT.
High. WAIT	✓	✓	✗	✗	✗		
ON	✗	✗	✗	✗	✗		
Low. WAIT	✓	✗	✗	✗	✗		
Low. OFF	✓	✓	✓	✓	✗		

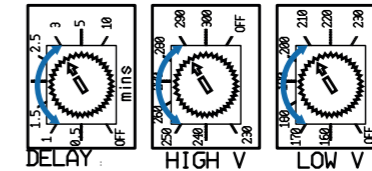
### Notes:

- WAIT LED indicates alarm level clearance (10s or user-selected DELAY timeout).
- If Delay is OFF, default 10-second delay is automatically activated.
- If LVD is OFF, only default 150V fast OFF is active.
- If HVD is OFF, no high-level voltage protection.

## SETTING CHANGE

Dial	Range	Default	Description
Delay Time	OFF, 30 sec to 10 min	3 min	The duration that the AVS3P will monitor the voltage before connecting it to your equipment after start-up or a disconnection period caused by high or low voltage. If set to OFF, the power will be connected to your equipment after a 10 second sensing delay.
High Voltage	230 V to 300 V, OFF	260 V	The maximum voltage that the AVS3P will still power your equipment. The AVS3P will disconnect the equipment from the supply when the voltage exceeds this set value. If set to OFF, the AVS3P will continue to supply the equipment regardless of the voltage value.
Low Voltage	OFF, 160 V to 230 V	200 V	The minimum voltage that the AVS3P will still power your equipment. When the voltage falls below this set value, the AVS3P will disconnect the equipment from the supply. If set to OFF, the AVS3P will continue to supply the equipment down to 150V (minimum working voltage), below this, the AVS3P will disconnect the supply.

Note: Always match the set AVS3P limits to the equipment requirements.



Turn the dial with a small screwdriver or your thumb to make necessary adjustments.

## SPECIFICATION

Nominal Voltage	230 V (L-N) / 400 (L-L)
Maximum Supply Voltage	320 V
Current	16 A Max. (drives contactor solenoid)
Max Consumption	35 VA
Voltage Disconnect	Off, 160 to 300 V (user settable)
Hysteresis (reconnection voltage)	3 V from set limits
Low Voltage Blind Time	1 s
High Voltage Blind Time	0.5 s
Wait Time	OFF, 30 s to 10 min
Spike Protection	160 J
Mains Spike Discharge	5.0 kA
Spike Response Time	<10 ns
Temporary Over Voltage (TOV)	460 VAC (L-N)
Extra Voltage Protection	Frequency, Phase Imbalance & Phase Rotation
Frequency	47 to 52 Hz & 57 to 62 Hz
Voltage Phase Imbalance Detection	4.8%
Connector	Screw Terminals
Unit Dimensions	184 x 134 x 53 mm (without cable glands)
Unit Weight	500 g

