



VE Transfer Switch

5kVA, 10kVA

Rev 00 - 12/2022

This manual is also available in [HTML5](#).

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1. Introduction

The VE Transfer Switch is designed to take over automatic switching between different power sources. For example, between a generator and the shore, between an inverter and a generator, or between an inverter and the shore.

It has two inputs and one output and automatically transfers the available AC power from one of the inputs to the output. It can be used with any Victron Energy inverter, providing the inverter power rating does not exceed the transfer switch power rating.

The transfer switch can also be used to allow a MultiPlus inverter/charger to connect to two different AC sources, like shore power and a generator, instead of only being able to connect to a single AC source.

2. Operation

The transfer switch is situated between a generator or shore power and the inverter.

If the voltage level or the frequency of the generator or the shore power varies on input 1, the transfer switch will switch to the inverter on input 2.

Once the generator or the shore supply has remained continuously stable, the transfer will switch back to input 1 with a delay of approximately 10 seconds. This way, the appliances that are connected to the output are protected against damage from voltage drops.

During transfer between one of the power sources from input 1 to input 2 or vice versa, the appliances are not supplied with power for a short time. Because of this, computers, electronic devices etc., that are connected to this group might lose data.

The transfer switch can be used with any type of inverter, but the best results, however, are obtained with an inverter from Victron Energy.

3. Installation



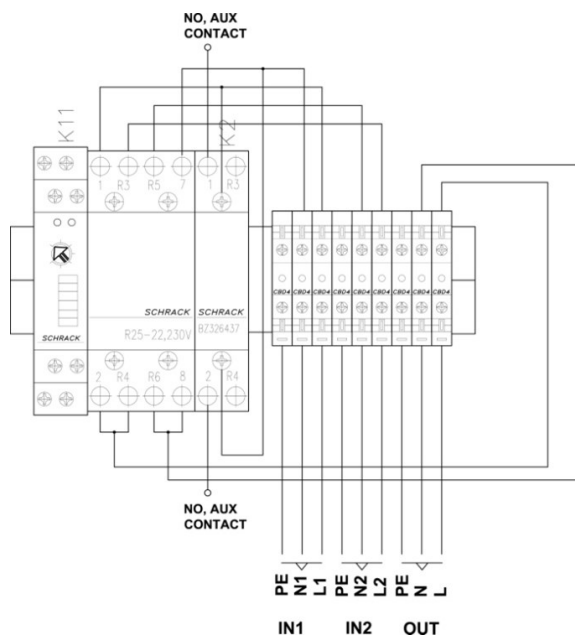
WARNING: Make sure that all AC power sources are switched off or disconnected before and during installation.

Mounting:

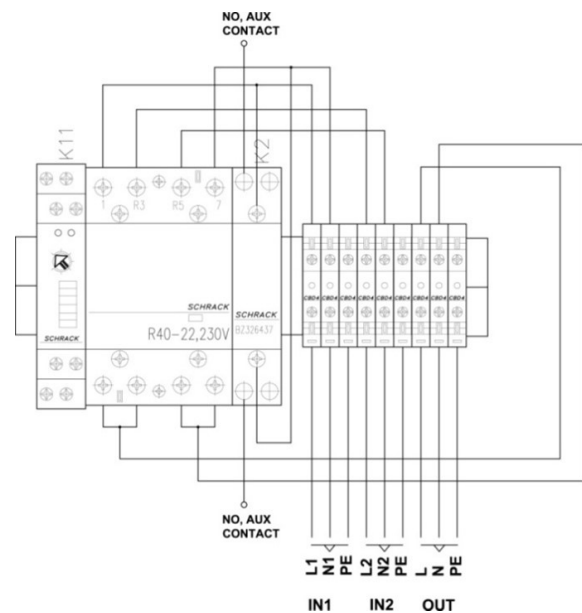
- Install the transfer switch in a dry and well-ventilated area.
- To gain access to the transfer switch, remove the four screws in the front panel.
- The transfer switch can be wall-mounted by using the four holes in the rear of the casing.

Electrical connections:

- The input cables (mains/generator) and the inverter (or inverter/charger) and the output cable (to the appliances) should be connected according to the connection diagram as shown below.
- The input and output cables must have the correct core thickness for a safe installation. Undersized cables can cause overheating of the cables. The maximum cable core thickness is 6mm².
- Use the provided cable glands to pass the input and output cables through the casing.
- Tighten all connections with a nominal torque moment of 1.2Nm. This is to limit transition resistance as far as possible. Loose connections can cause dangerous overheating of the terminals.



Connection diagram VE Transfer Switch 5kVA.

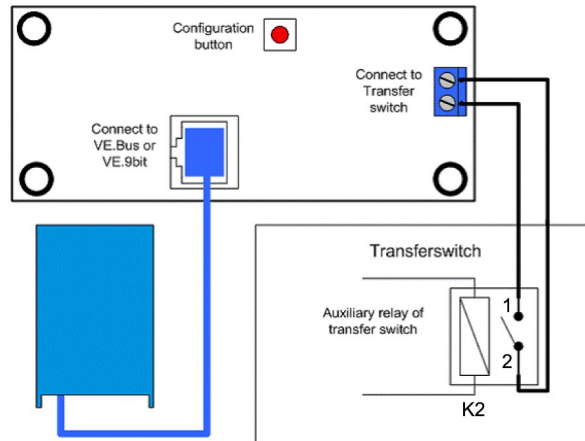


Connection diagram VE Transfer Switch 10kVA.

Digital Multi Control panel connection:

When the transfer switch is used together with a MultiPlus and a Digital Multi Control panel (DMC):

- Connect the transfer switch Auxiliary contact 1 and 2 of relay K2 (NO) to the screw connector on the back of the DMC as indicated in the connection diagram below.
- When the transfer switch auxiliary contact is open, the MultiPlus current limit is controlled by the knob on the front of the DMC. The display on the DMC will show the current limit value.
- When the transfer switch auxiliary contact is closed, a pre-set (generator) current limit is sent to the MultiPlus. The display on the DMC will show the text: "GEN".
- For more information on this feature and on how to set the preset (generator) current limit see the [Digital Multi Control Panel manual](#).



Connection diagram Digital Multi Control panel.

Fusing, earth leakage protection and grounding:

- The AC input and output wiring must be protected by fuses or miniature circuit breakers (MCBs) that are suitable for the system's wire cross-section.
- External earth leakage switches (RCDs or RCCBs) must be integrated with the transfer switch wiring.
- All ground connections of the power sources and power consumers must be connected to the central ground connection of the ship or the electric installation.

Configuration:

In most cases, there is no need to configure the transfer switch. The transfer switch is ready for use straight after installation. However, in some specific circumstances, an adjustment of the "switch on delay" of input 1 is needed. Make the delay time adjustment using a small flat-blade screwdriver.

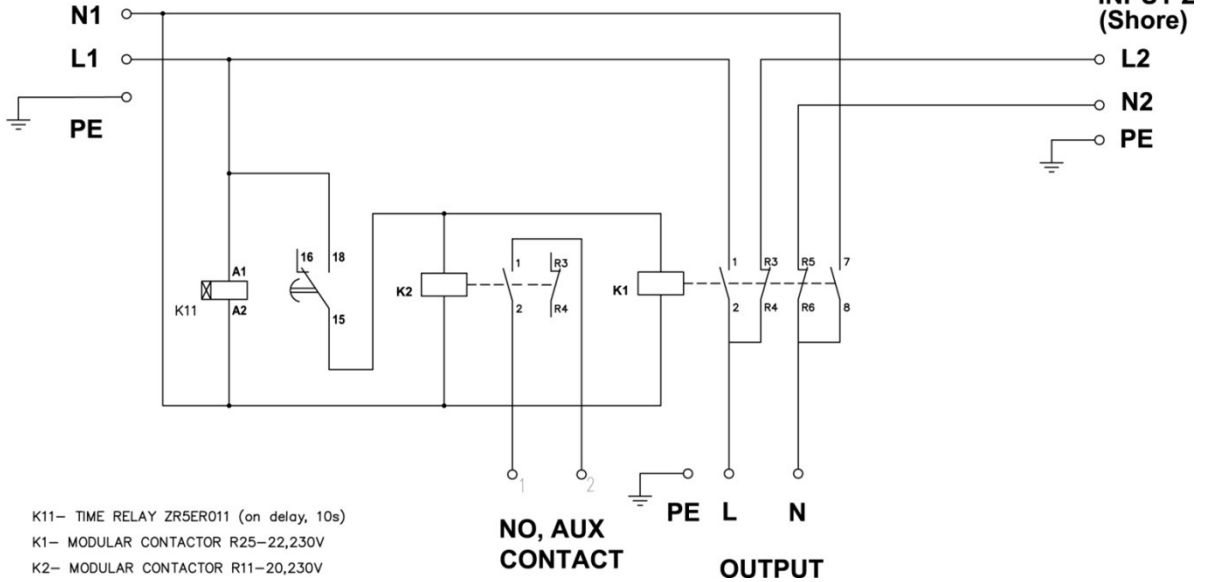
4. Technical specifications

VE Transfer Switch	5kVA (COS 0)	10kVA (COS 0)
Nominal voltage	200 - 250Vac, single-phase	
Nominal frequency	50 – 60Hz	
Nominal current input 1	20A	40A
Nominal current input 2	20A	40A
Nominal output current	20A	40A
Maximum electromotor (air-conditioner) power	1.3kW	8kW
Power consumption input 1	6VA	6VA
Power consumption input 2	0VA	0VA
Transfer time by closing contacts	10 - 20ms	10 - 20ms
Transfer time by opening contacts	5 - 20ms	5 - 20ms
Contacts delay input 1	Approximately 10s (adjustable)	
Auxiliary contact	200 - 240Vac, 20A, cos phi = 1	
GENERAL		
Operating temperature	-5°C to + 60°C	
Maximum humidity (non-condensing)	95%	
Miniature circuit breaker (MCB)	Not included - installation dependent	
Earth leakage breakers (RCD)	Not included - installation dependent	
ENCLOSURE		
Protection category	IP 54	
Colour	RAL 7035	
Dimensions (mm)	175 x 215 x 120	175 x 215 x 120
Weight (kg)	1.85	1.65

5. Electrical diagram

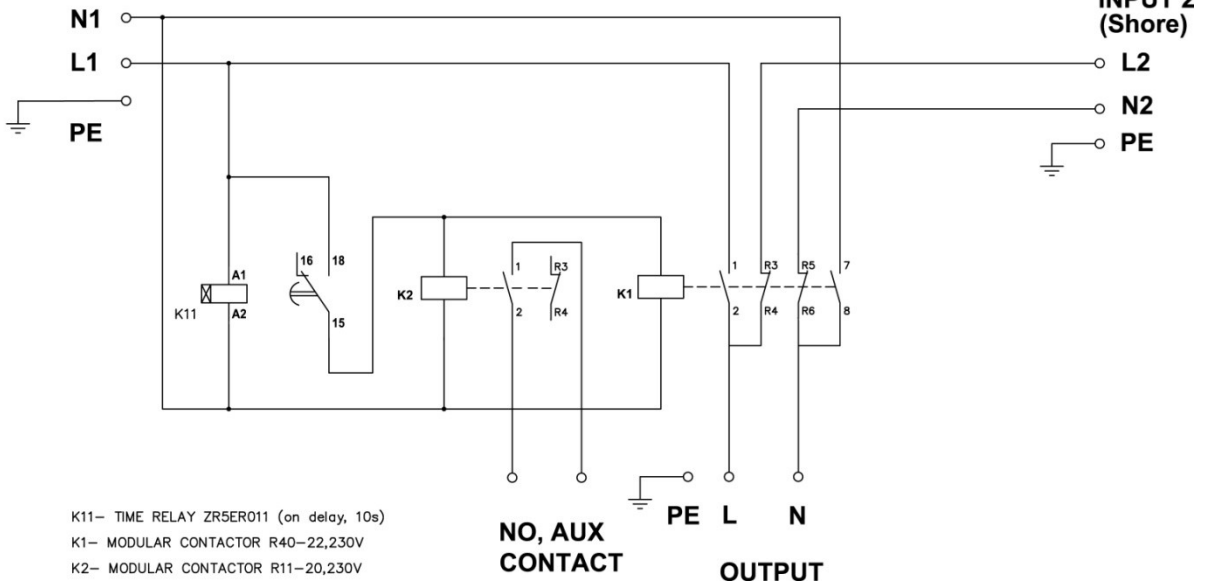
VE Transfer Switch 5KVA

INPUT 1 (Generator)



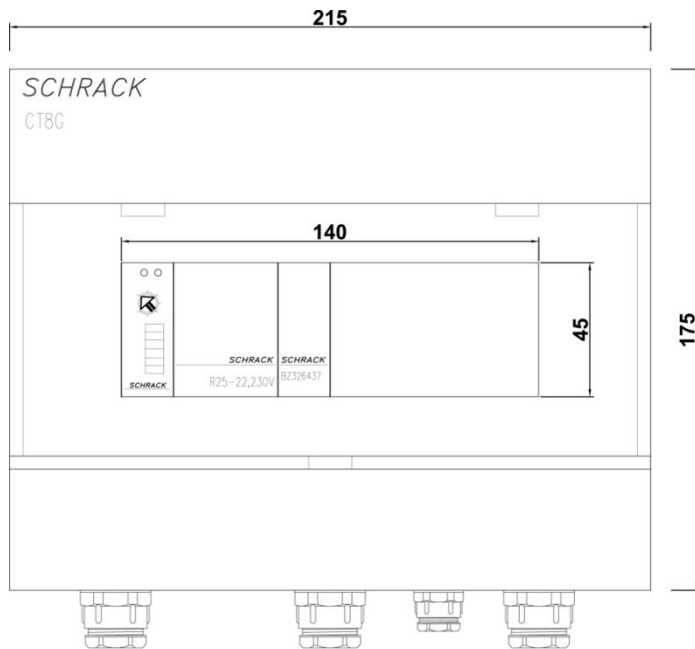
VE Transfer Switch 10KVA

INPUT 1 (Generator)



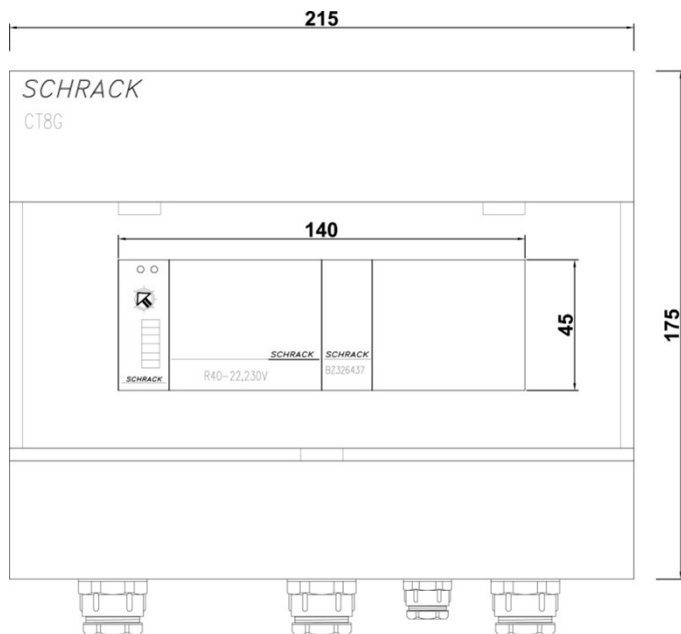
6. Dimensions

VE Transfer Switch 5kVA



All dimensions are in mm!

VE transfer Switch 10kVA



All dimensions are in mm!