



INSTALLATION MANUAL  
MASTERVOLT

AUTOMATIC VOLTAGE  
SELECTOR 6, 9 and 13 kW  
6, 9 en 13kW

# **MASTERVOLT automatic voltage selector**

This automatic voltage selector developed by MASTERVOLT as system component to ensure daily comfort on board.

MASTERVOLT has many of years experience in the field of on board energy systems:

- as a producer of high end MASTERVOLT inverters and battery-chargers.
- as a system-supplier of high end system components.

The MASTERVOLT energy systems are constructed from the best possible components which are carefully selected and tested.

All system components are fully optimized and tested by the MASTERVOLT development department for energy systems, this assures reliable operation of the MASTERVOLT product.

During the two years guarantee period or after, you can depend on our international network of MASTERVOLT support centres in case of problems or complaints.

# 1. General

The automatic voltage selector is an by MASTERVOLT developd system component. This system component changes the configuration of the windings of an isolation transformer, in order to have a non changing transformer output voltage.

In general there are two shore voltage levels, 110 and 220 volts. The unit measures the shore voltage and switches the windings of the isolation transformer so that the right voltage is available.

When switching on an transformer a inrush current will appear. To make sure that this inrush current is not to high, the automatic voltage selector is equipt with a softstart. The purpose of an soft start is to make sur that the shore fuse will not blow when the isolation transformer is connected with the shore voltage.

There are three models of de automatic voltage selector an 6kW, the 9kW and the 13kW.

# 2. Operation

Figure 1 shows the block diagram of the automatic voltage selector. The relais K1, K2 and k3 change the configuration of the transformer windings (serie or parallel), so you will have the right output voltage of the transformer available for your board system. The automatic voltage system is aqipt with a time delay that has a double function.

- 1) Enough time to mesure the input voltage and if nessesairie with the configureration of the windings.
- 2) Enough time to start up the possible connected gerator.

After the time delay (set at3 seconds) relais K4 or K5 will be contracted, the shore voltage is now connected with the softstart and isolation transformer. The right voltage is now available on the thernal rail in the cabinet.

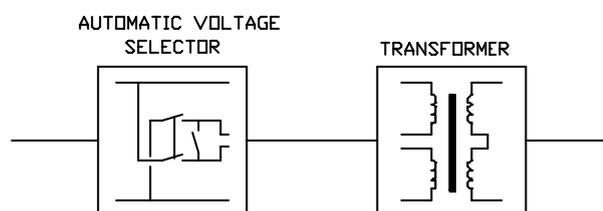


Fig.1 Block diagram.

# 3. Installation

The automatic voltage selector must be installed at a dry and ventilated place. The cabinet must be placed between the shore connection and te isolation transformer.

## 4. Specifications

Type : **6 kW**      **9 kW**      **13 kW**

### General

Nominal current	117 V	:	60 A	80 A	130 A
	230 V	:	30 A	40 A	70 A
Switching current ( $I_{eff}$ IEC 947-4)		:	800 A	800 A	1000 A
Delay time		:	Adjustable 0,1 t/m 30 s. Standard set to 3 sec. 117V and 230V are independently adjustable.		
No load power consumption	117 V	:	34 VA	34 VA	34 VA
	230 V	:	14 VA	14 VA	21 VA

### Connections

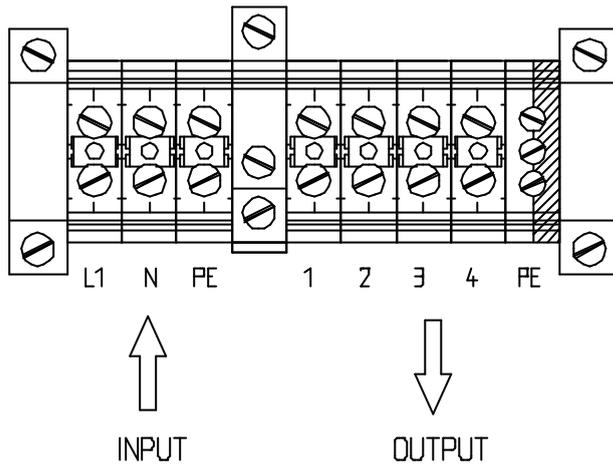
Connections	:	In and out 16 mm <sup>2</sup> clamps		
Cable diameter	:	10 mm <sup>2</sup>	11.4 mm <sup>2</sup>	18.6 mm <sup>2</sup>
Cable conducts	:	2 x Pg21	2 x Pg29	2 x Pg29

### Enclosure

Case size (H x W x D)	:	400 x 300 x 210		
Colour	:	RAL 7032 (grey/white)		
Degrees of protection	:	IP 66		
Weight	:	12 kg	12,5 kg	13 kg

## 5. Terminals

### THERMINAL RAIL AUTOMATIC VOLTAGE SELECTOR

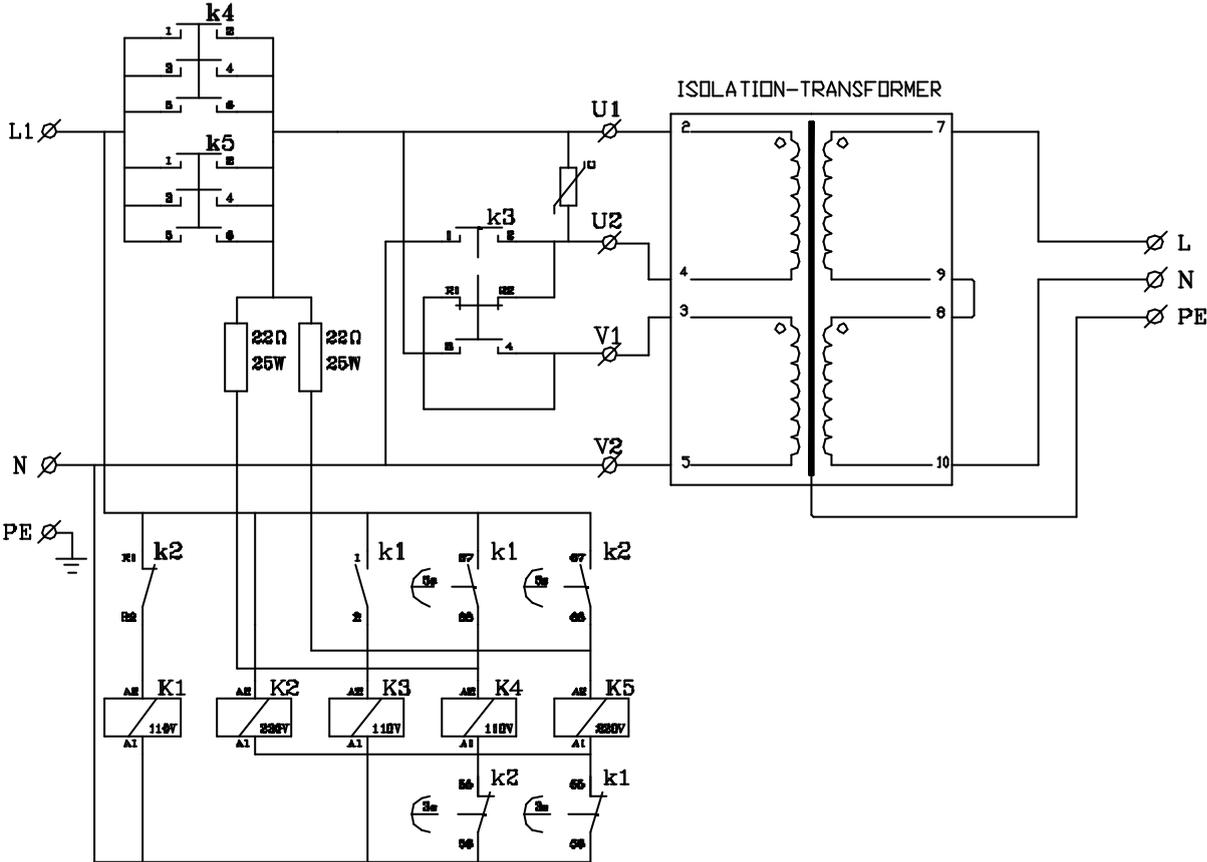


INPUT L1 = PHASE 110V OR 220V  
N = NEUTRAL  
PE = EARTH

OUTPUT U1 = PHASE WINDING 1  
U2 = NEUTRAL WINDING 1  
V1 = PHASE WINDING 2  
V2 = NEUTRAL WINDING 2

The shore earth must be connected with the gray input terminal marked PE.  
This wire may not be connected with the cabinet or any other terminal.

# 6. Electrical circuit





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