Marine
air-conditioning systems

User & Installation
Manual

Thermostat
DIGITH

Mar-ix, a product from Mavé B.V.
WWW.MAVE.NL

English

Introduction

In this manual the installation and use is described for the digital thermostat.

Please read this manual carefully and take note of the usage, installation and maintenance points given. This way malfunctions will be avoided and you will retain your warranty.

No special tools are required and neither is there a need for specific cooling technique knowledge. The technical installation for climate control can be found in the system cabinet.

When repairs or maintenance in this area are needed (system cabinet) this should always be done by certificated companies.

This airco should only be used for nautical purposes. Whenever changes have been made to the airco this will make the warrantee void, in these cases Mavé will not be responsible for possible damages. All risks are then exclusively for the user.

We have tried to make this manual complete with the use of schematics and figures while being as brief as possible. Nonetheless we are available for any queries you might have.

Safety measures

All relevant regulations and laws should be taken into account at all times when working with this product.

- Always use suitable tools for the job.
- Disconnect the power supply when working on the electrical system of this product.
- Never touch hot surfaces in or around the system cabinet.
- Never put combustible materials close to the installation.
- Disconnect the installation when welding close to the installation.
- Never touch moving parts when the installation is in use.

Connections

The electrical system consists of a 220 Volt and a low voltage circuit.

A standard installation wire can be used for the 220 volt circuit and a normal phone wire can be used for the low voltage circuit.

220v circuit
Remove the connecting block which is already present in the electronics cabinet (see figure 1). Install the fan speed control device of each thermostat in the nearest electronics cabinet of the fan coil unit (see figure 2).

Figure 3 shows an overview of the entire system.

In each room there must be a thermostat and a fan speed control device.
The power fan speed device operates all fan coil units present in the room.

Use a cable of at least 1mm² diameter for the 220v circuit.

Connect the 220v circuit in each room as indicated in figure 4.

Control cables
The connection between thermostats must be made using a 4-way telephone cable. The electrical plugs must be installed 1 on 1 to the telephone cable. This implies that the cable is always connected in the same way. If the telephone cable is on the left side in one connection then it needs to be on the left side also in the other connection.

The connection between the thermostat and the control device for rpm must be made using a 6-way telephone cable. The electrical plugs must also be installed 1 on 1 to the telephone cable. If the telephone cable is on the left side in one connection then it needs to be on the left side also in the other connection.

Connect the control cables as indicated in figure 3.

Connect maximum 4 thermostats on one chiller unit! To connect more thermostats use the VDT (thermostat power supply)

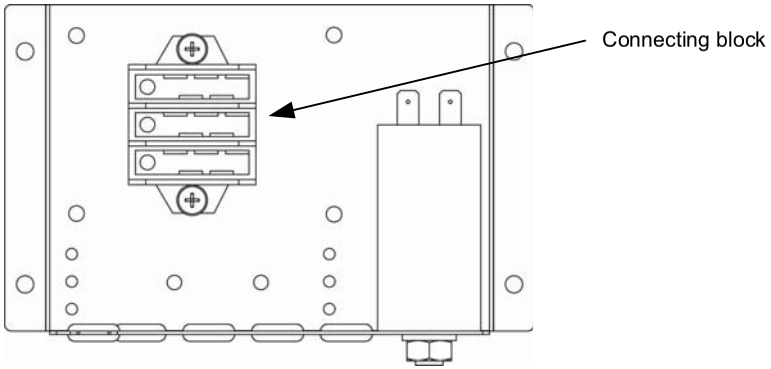


Fig. 1

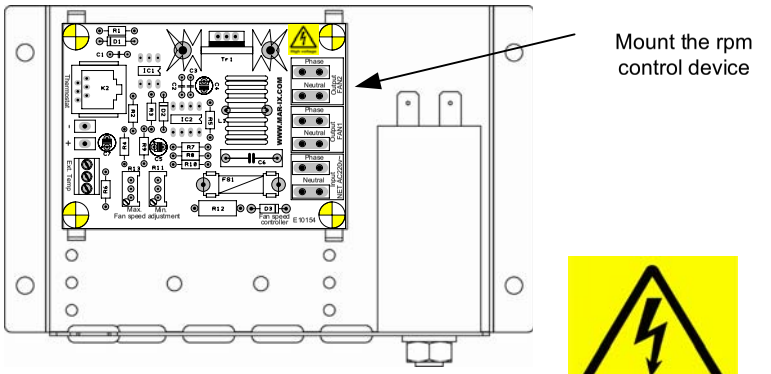


Fig. 2

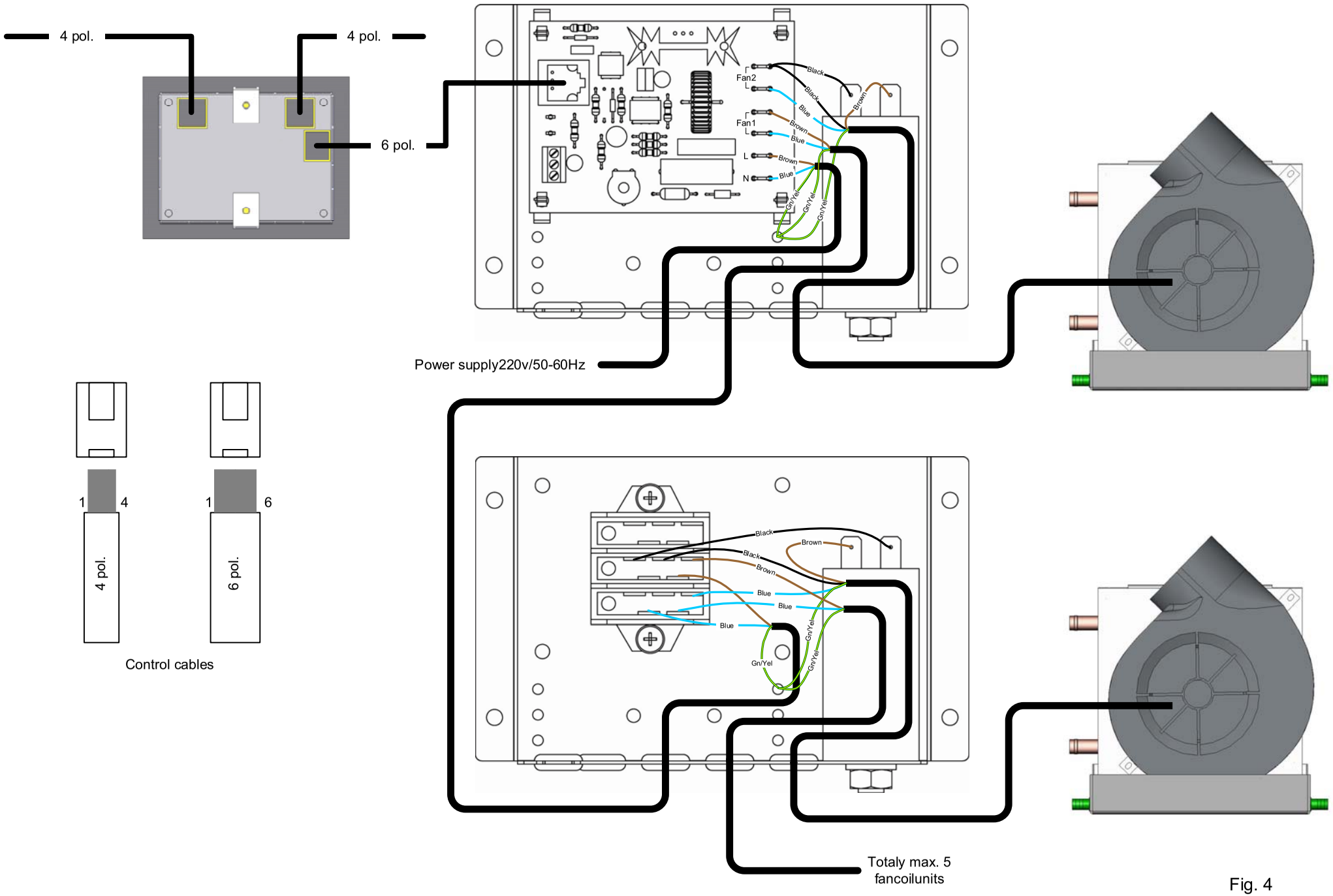

4 pol.
4 pol.
6 pol.
Fan2
Fan1
L
N
Black
Brown
Blue
Gn/Yel
Power supply220v/50-60Hz
1
4
1
6
4 pol.
6 pol.
Control cables
Totaly max. 5
fancoilunits

Fig. 4

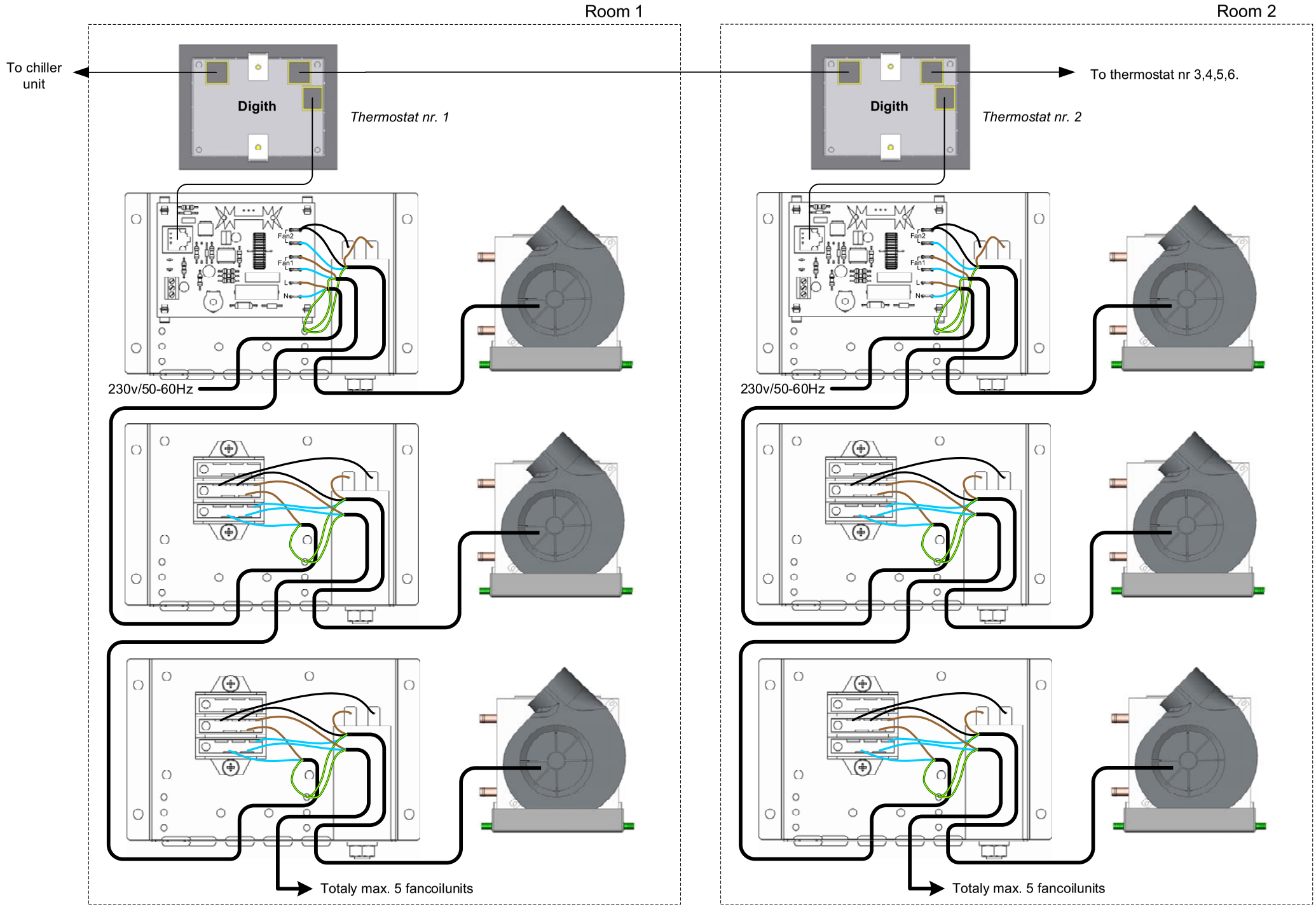

Room 1
Room 2
To chiller unit
Digith
Thermostat nr. 1
Digith
Thermostat nr. 2
To thermostat nr 3,4,5,6.
230v/50-60Hz
230v/50-60Hz
Totaly max. 5 fancoilunits
Totaly max. 5 fancoilunits

Fig. 4

Operation

If power is activated to the airco or clima the connected thermostats will indicate the temperature in the room.

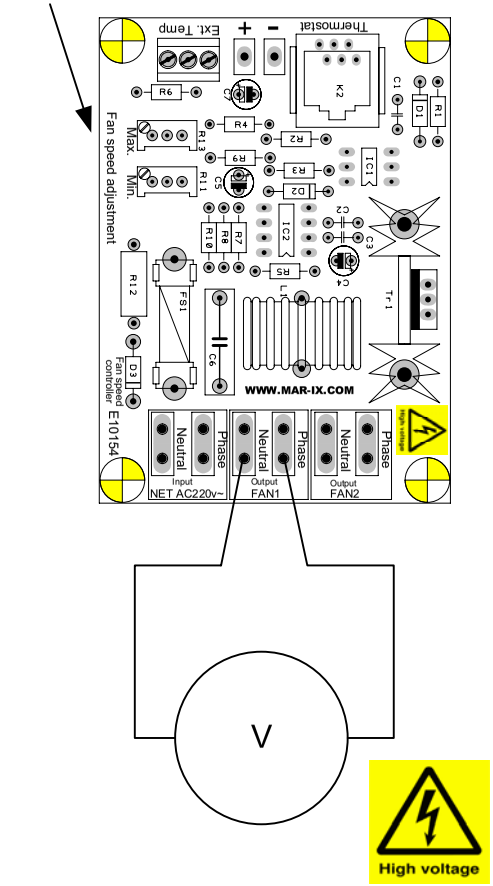
Cooling function

To set the system for cooling the cool button on the thermostat must be pressed once. After this the compressor will turn on. Using the fan buttons the output of the fan coil unit can be changed to different settings. The fan will only turn on if the adjusted temperature is lower than the measured temperature. The temperature can be adjusted by using the temp. buttons. If the adjusted temperature is reached the fan will turn off.

Heating function

To set the system for heating (only possible with a clima) the need button needs to be pressed once. The heater of the clima unit will turn on immediately. Using the fan buttons the output of the fan coil unit can be changed to different settings.
The fan will only turn if the adjusted temperature is lower than the measured temperature. The temperature can be programmed by using the temp. buttons. If the programmed temperature is reached the fan will turn off. It is not possible to turn on the heating and cooling function in the same time. If one of the thermostats is set for cooling while trying to set another thermostat for heating then the current setting will be indicated by a flashing light on the thermostat.

Potentiometer



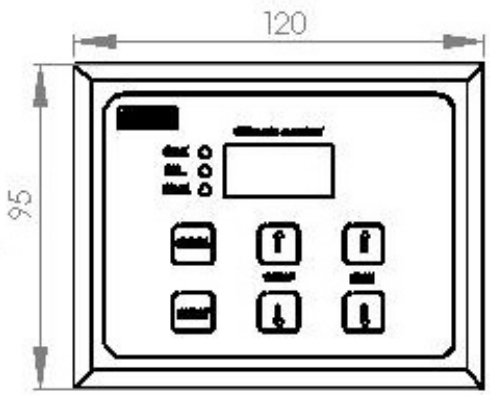
Fine tuning

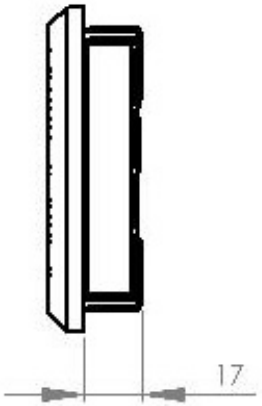
After the function test has been completed it is necessary to check if the fine tuning of the fan speed regulator is correct.
Proceed as follows;

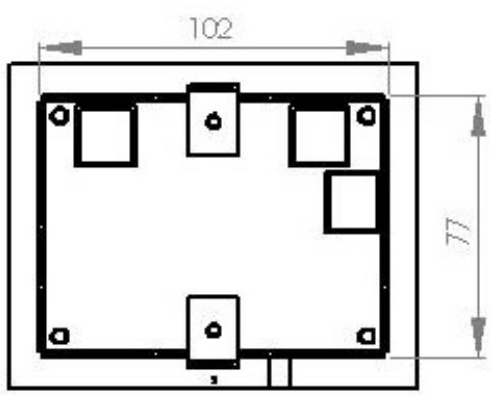
- Press the COOL button.
- Set the temperature lower than the existing temperature with the TEMP buttons.
- The fan will start turning.
- Set the fan to position 005 with the Fan Buttons.
- Measure with the multimeter the output voltage on position FAN1, check if the voltage is between the 95-110V.
  When necessary turn the potentiometer left to reduce and right to increase the voltage.
- Set the fan to position 100 with the FAN buttons.
- Measure with the multimeter the output voltage on position FAN1, check if the voltage is between the 220-230V.
  When necessary turn the potentiometer MAX left to increase and right to reduce the voltage.
- Set the fan to position 95 with the FAN buttons. Measure with the multimeter the output voltage on position FAN1,
  The voltage has to be lower than on position 100. When not, turn the potentiometer MAX right to reduce the voltage.
- Check the position 100 and 95 again.
- Set the fan to position 005 with the FAN buttons.
- If the voltage is between 95-110V, then is the fan speed regulator set correctly.
- When the voltage is higher / lower then 95-110V,
  then turn the potentiometer MIN left to reduce and right to increase the voltage.
- If the fan is on position 005 and the fan is making an vibrating noise,
  then turn the potentiometer MIN right until the noise is disappeared.
- Check if all values are correct.

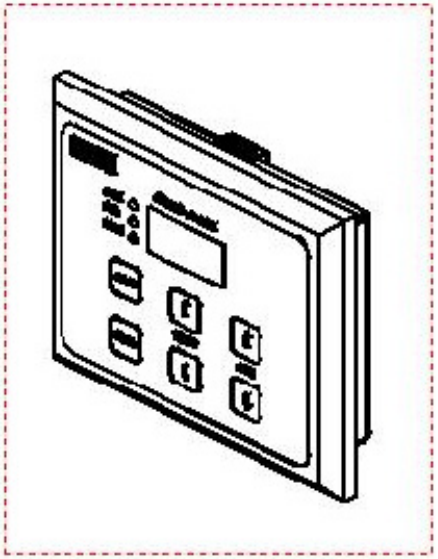
Dim function

If desired it is possible to changes dim the lights on the thermostats. The heating and/or cooling function must not be used when dimming the light on the thermostat. Using the temp buttons the output of light can be set between 5% and 100%.









Partnr.	Material	Weight: gram
File: Digitale thermostaat		Projection.
Date: 01-01-2005	Rev.: 1 Rev. date	
Drawn.: Mark Vermetten		Note.
Size: A4	Scale: 1:2	

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