

# OPERATING INSTRUCTIONS

LABORATORY & PHARMACEUTICAL UNIT  
100/270/300/500/660/700/900/1400

ARCTIKO

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## IMPORTANT

### Before using the appliance

For safety reasons, the instructions should be read before the appliance is commissioned. The operating instructions should always be available and accessible to personnel!

### Low Voltage Directive 2006/95/EEC.

Electromagnetic Compatibility Directive 2004/108/EEC.  
Only use the appliance for its specific purpose.

### Safeguarding the environment:

#### Packing

The packing material is entirely recyclable, please follow the local regulation for scrapping.

#### Appliance

By disposal deliver the appliance to an authorised centre for recovery of refrigerant. Make the appliance unusable by cutting of the power supply cord.

#### Information

This appliance contains a mixture of various refrigerants. For more information please refer to the rating plate affixed to the freezer.

### Power Failure:

The unit is equipped with battery back up for display and contact for remote monitoring only. Back up time is minimum 48 hours, the freezer must be connected voltage 100 V, 115 V or 230 V, in minimum 72 hour before maximum battery is available. Please note the lifetime of the battery is estimated to be 3 years. Battery performance should be checked by authorize personnel every 6. Month.

### Precautions and general recommendations:

**WARNING:** Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.

**WARNING:** Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

**WARNING:** Do not damage the refrigerant system.

**WARNING:** Do not use electrical appliances inside the appliance storage compartment, unless they are of the type recommended by the manufacturer.

- Always keep the keys in separate place and out of reach of children.
- Before servicing or cleaning the appliance, unplug it from the mains or disconnect the electrical power supply.
- The power supply cable may only be replaced by an authorised person.

## Installing the appliance

1. Always allow an authorised electrician to install the appliance.
2. The appliance should be located in a cool, dry place out of direct sunlight. The appliance gives off a great deal of heat when in operation. If the ambient temperature is too high there is a risk that the appliance will not operate correctly. It is recommended that the room be ventilated so that the room temperature does not exceed ambient temperature.
3. Place the appliance on a solid and flat substrate. This will eliminate any vibration and irritating noise. The appliance should be placed with at least 10 cm free to the sides, at least 15 cm free at the back.

## Electrical Connection

The appliance meets current EU directives. Low voltage 2006/95/EEC.

Electromagnetic compatibility 2004/108/EEC.

The appliance should be given extra protection in accordance with Electricity Supply Regulations in order to protect the user against dangerous electric shocks in the event of faults.

If the wallsocket is for three-pin plug, a three-pin plug should be used and the conductor with yellow/green insulation connected to the Earth terminal.

Information regarding voltage and current is given on the rating plate.

Electrical connection must be made in accordance with the local regulations.

## Warning

Regulations require that this appliance be earthed:

The manufacture declines all liability for injury to persons or animals and for damage to property resulting from failure to observe the above procedures and reminders.

If the socket and plug are not of the same type either the socket or the plug must be replaced by a qualified electrician.

Under no circumstances use extension leads or adaptors.

1. The appliance should be connected by an authorised electrician or by the company that sold the appliance. Incorrect installation may damage the appliance.
2. Place the appliance on a flat floor that can bear the weight of the appliance.
3. The electrical installation should be earthed.
4. Do not use extension cables. Connect the appliance directly to a fixed installation. If the appliance is connected to a long extension cable there is a risk that the cable will become hot.
5. The appliance should be placed in a dry location. Do not allow water to come into contact with the cabinet. Water entering electrical parts may cause short-circuiting.
6. In the event of functional or electrical irregularities, please contact an authorised service engineer.

## Before Commissioning

Clean the appliance both inside and out using a damp, wrung out cloth. Dry with a dry cloth.

## Starting procedure

Put the plug in the socket.

The thermostat pre-set by the producer. The appliance should run for at least 6 hours before the thermostat is changed to allow for stabilisation of the cooling system.

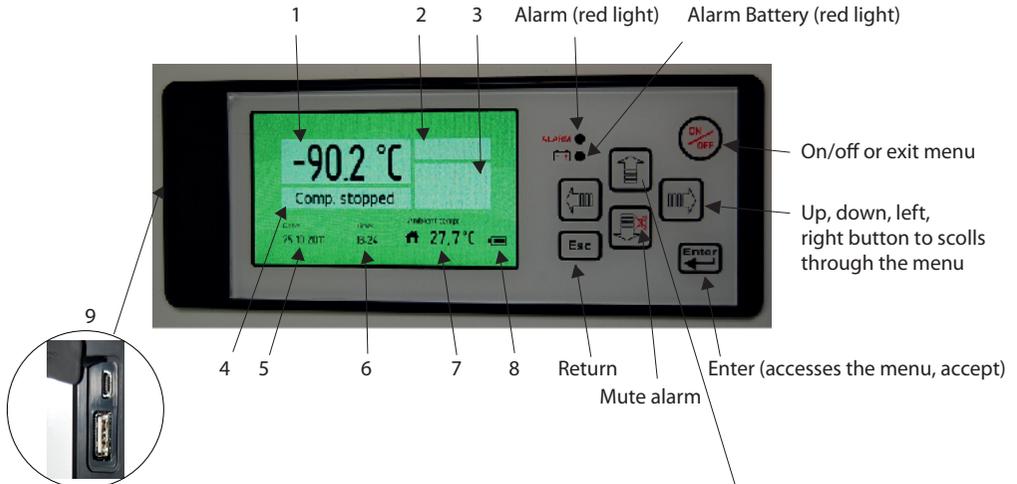
## Starting up the appliance

Set the digital thermometer at the required.

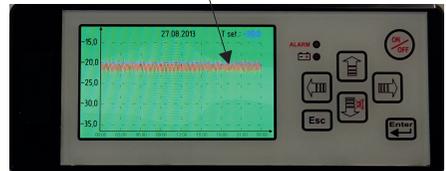
## Disconnecting the appliance

Electrical disconnecting must be possible either by unplugging the appliance or by means of a double pole switch located up-line from the socket.

## Control Panel (G-214 Controller)



USB port for Data download/ Software update



## Control Panel Description

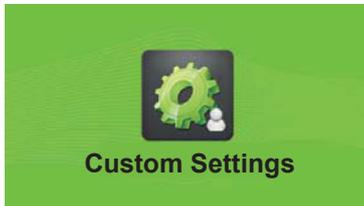
1. Temperature indicator
2. Alarm indicator
3. Alarm-icons
4. Compressor indication
5. Date indication
6. Hour indication
7. Ambient temperature indicator
8. Battery level
9. USB-Connection

Push the **UP** button in order to generate a graph.

Push the **LEFT** button in order to return up to 10 days back.

Push the **Esc** button in order to exit the menu.

## Setting icons



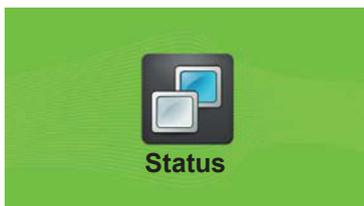
**Custom Settings**



**Advanced Settings**



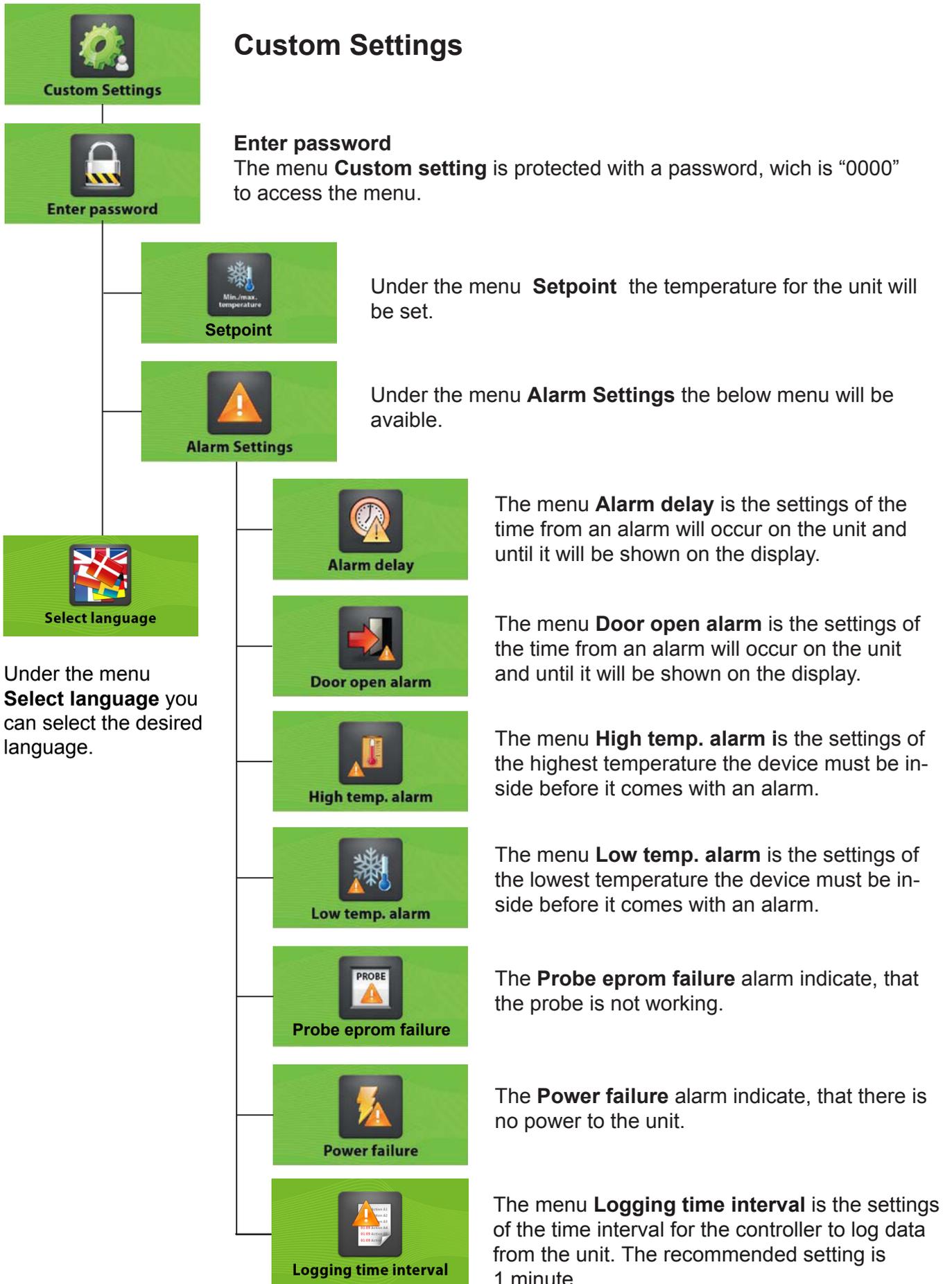
**Advanced Service Settings**



**Status**



**Change / Reset password**





Advanced Settings

## Advanced Settings



Enter password

### Enter password

The menu **Advanced Settings** is protected with a password wich is "0000" to access the menu.



Calibration

The menu **Calibration** is the settings for offset of the temperature in the display.



Automatic defrost

The menu **Automatic defrost** is the setting of the time where a defrost automatic will be performed on the unit.



Manual defrost

Under the menu **Manual defrost** the defrost can be started immediately.



Hysteresis

The menu **Hysteresis** is the setting of the different from the setpoint whwere the compressor will start and stop.



Temp. range limits

The menu **Temp. range limits** is the settings of the maximum and minimum temperature the unit can be used for.



Service

### Service

See Page 10



Password protection

The menu **Password protection** is the setting of the protection for the unit not to be turn off and is protected with a password.



Set date / time

The menu **Set date / time** is the setting of date and time.



Ambient temp. settings

The menu **Ambient temp. settings** is the setting of the ambient temperature (min / max.)



## Service

### Service Settings

Under the menu **Service**, there is information about the unit, which is important for service on the unit.



#### Compressor hours

The menu **Compressor hours** shows, how many hours the compressor has run.



#### Fan hours

The menu **Fan hours** shows, how many hours the fan has run.



#### Probe

Under the menu **Probe** the temperature for the sensor mounted in the unit is displayed.



#### Probe inside unit

Under the menu **Probe inside unit** the temperature of the sensor mounted inside the unit is displayed. There is mounted a sensor as standard in the unit, but it is possible to mount 3 sensors inside the device. (Controller version)



#### Probe Compressor

Under the item **Probe Compressor** the temperature of the sensor mounted on the compressor is displayed. (Not all models)



#### Probe evaporator

Under the point **Probe evaporator** the temperature of the sensor, that is located on the Evaporator, is displayed.



### Advanced Service Settings

## Advanced Service Settings

This menu is only used by the service department at the manufacturer.



### Status

## Status



### Current alarms

The **Current alarms** shows the alarm, which have been on the unit with data and time.



### Temp. last 24 hours

The **Temp. last 24 hours** shows the temperature of the unit the last 24 hours.



### Change/Reset password

## Change / Reset password



### Change password

Under **Change password** it is possible to change the password for **Customer Settings**, **Advanced Settings** and **Advanced Service Settings**.



### Reset password

Under **Reset password** it is possible to reset the password for the **Customer Settings**, **Advanced Settings** and **Advanced Service Settings**.  
Contact the manufacturer to get the password for reset password.

## Download Data



Insert the USB pen drive in the connection on the display and press the button right for **read data** from the unit to the USB pen.



The **Read data** will be shown in the display when the data is loading to the USB pen drive.



The **Transfer complete** will be shown on the display when the loading is finished and the USB pen can be removed from the display.

Open the 2 files:  
**data00** and **param00**  
 on a computer in Excel or similar.

## Upload Data (Only for new settings from the manufactory)



Turn-off the display before start.  
 Place the USB pen drive in the connection on the display and press the button left for upload parameters from the USB pen to the unit.



The **Data upload** will be shown in the display when the data is loading to the unit.



The **Transfer complete** will be shown on the display when the loading is finished and the USB pen can be removed from the display.

## Alarms on display



### Alarm icons



**Door open alarm**

The **Door open alarm** indicate, that the door is not correct closed



**High temp. alarm**

The **High temperature alarm** indicate, that the temperature inside the unit is higher than permitted from setting of the unit.



**Low temp. alarm**

The **Low temperature alarm** indicate, that the temperature inside the unit is lower than permitted from setting of the unit.



**Probe eeprom failure**

The **Probe eeprom failure** alarm indicate, that the probe is not working.



**Power failure**

The **Power failure** alarm indicate, that there is no power to the unit.



**Low battery**

The **Low battery** alarm indicate, that the Voltage on the battery is to low.

## Default settings LR / LF

Description	Arctiko default settings	Customer settings
<b>Custom Settings (Password)</b>	0000	
<b>Set point</b>		
Refrigerator	+4,0	
Freezer	-20,0	
<b>Alarm Settings:</b>		
<b>Alarm delay</b>		
Refrigerator	15 min	
Freezer	15 min	
<b>Door open alarm</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>High temp. alarm</b>		
Refrigerator	+6	
Freezer	-15	
<b>Low temp. alarm</b>		
Refrigerator	+2	
Freezer	-30	
<b>Probe/eprom failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Power failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Logging time interval</b>		
Refrigerator	1	
Freezer	1	

Description	Arctiko default settings	Customer settings
<b>Advanced Settings (Password)</b>	0000	
<b>Calibration</b>		
Refrigerator	0,0	
Freezer	0,0	
<b>Automatic defrost</b>		
Refrigerator	06	
Freezer	06	
<b>Manual defrost</b>		
Refrigerator	OK	
Freezer	OK	
<b>Hysteresis</b>		
Refrigerator	1,0	
Freezer	2,0	
<b>Temp. range limits</b>		
Refrigerator Max.	+10,0	
Refrigerator Min.	+1,0	
Freezer Max.	-10,0	
Freezer Min.	-30,0	

## Default settings LFF

Description	Arctiko default settings	Customer settings
<b>Custom Settings (Password)</b>	0000	
<b>Set point</b>		
Refrigerator	+4,0	
Freezer	-20,0	
<b>Alarm Settings:</b>		
<b>Alarm delay</b>		
Refrigerator	15 min	
Freezer	15 min	
<b>Door open alarm</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>High temp. alarm</b>		
Refrigerator	+6	
Freezer	-15	
<b>Low temp. alarm</b>		
Refrigerator	+2	
Freezer	-30	
<b>Probe/eprom failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Power failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Logging time interval</b>		
Refrigerator	1	
Freezer	1	

Description	Arctiko default settings	Customer settings
<b>Advanced Settings (Password)</b>	0000	
<b>Calibration</b>		
Refrigerator	0,0	
Freezer	0,0	
<b>Automatic defrost</b>		
Refrigerator	06	
Freezer	06	
<b>Manual defrost</b>		
Refrigerator	OK	
Freezer	OK	
<b>Hysteresis</b>		
Refrigerator	1,0	
Freezer	1,0	
<b>Temp. range limits</b>		
Refrigerator Max.	+10,0	
Refrigerator Min.	+1,0	
Freezer Max.	-10,0	
Freezer Min.	-30,0	

## Default settings PR / PF

Description	Arctiko default settings	Customer settings
<b>Custom Settings (Password)</b>	0000	
<b>Set point</b>		
Refrigerator	+4,0	
Freezer	-20,0	
<b>Alarm Settings:</b>		
<b>Alarm delay</b>		
Refrigerator	15 min	
Freezer	15 min	
<b>Door open alarm</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>High temp. alarm</b>		
Refrigerator	+6	
Freezer	-15	
<b>Low temp. alarm</b>		
Refrigerator	+2	
Freezer	-30	
<b>Probe/eprom failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Power failure</b>		
Refrigerator	Enable	
Freezer	Enable	
<b>Logging time interval</b>		
Refrigerator	1	
Freezer	1	

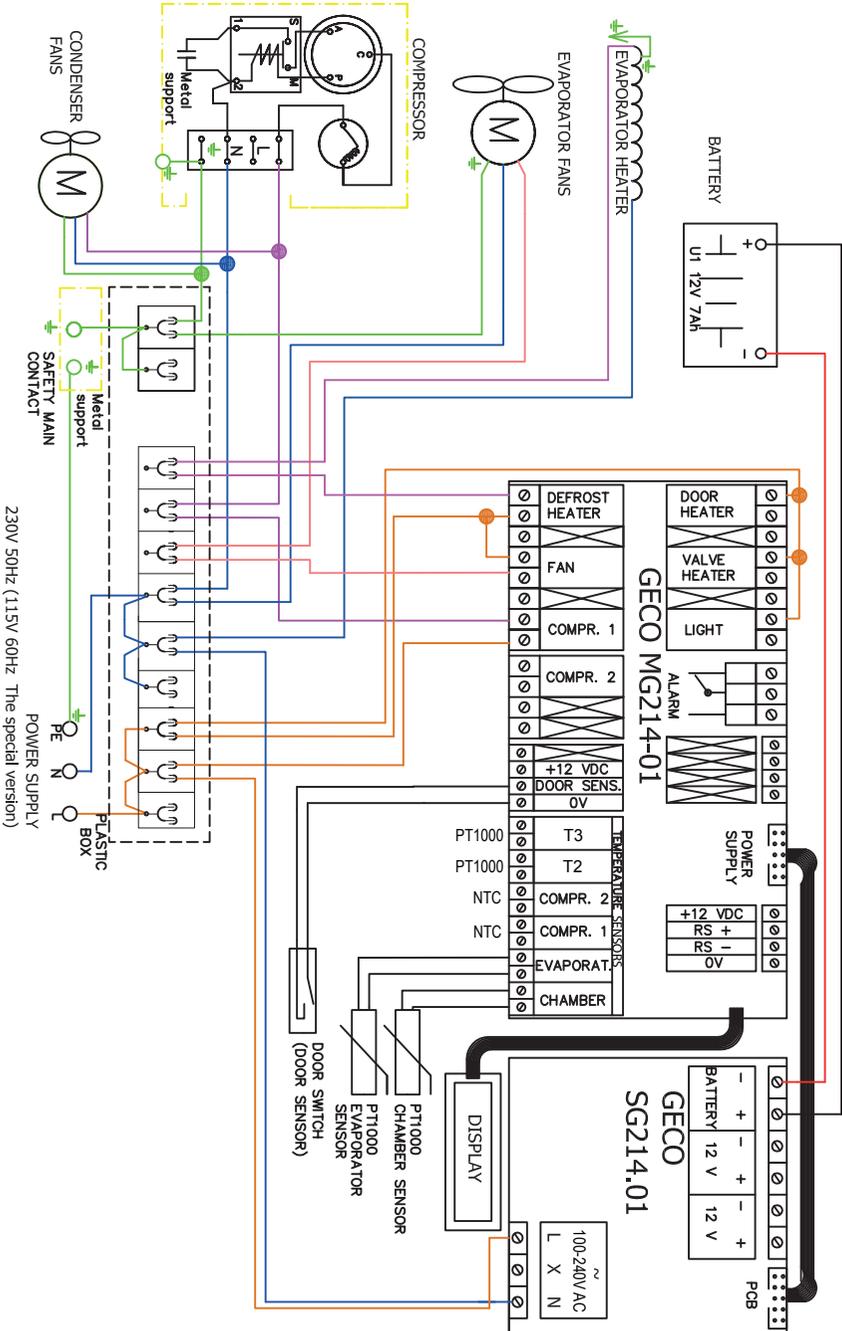
Description	Arctiko default settings	Customer settings
<b>Advanced Settings (Password)</b>	0000	
<b>Calibration</b>		
Refrigerator	0,0	
Freezer	0,0	
<b>Automatic defrost</b>		
Refrigerator	06	
Freezer	06	
<b>Manual defrost</b>		
Refrigerator	OK	
Freezer	OK	
<b>Hysteresis</b>		
Refrigerator	1,0	
Freezer	2,0	
<b>Temp. range limits</b>		
Refrigerator Max.	+10,0	
Refrigerator Min.	+1,0	
Freezer Max.	-10,0	
Freezer Min.	-23,0	

## Default settings MBR

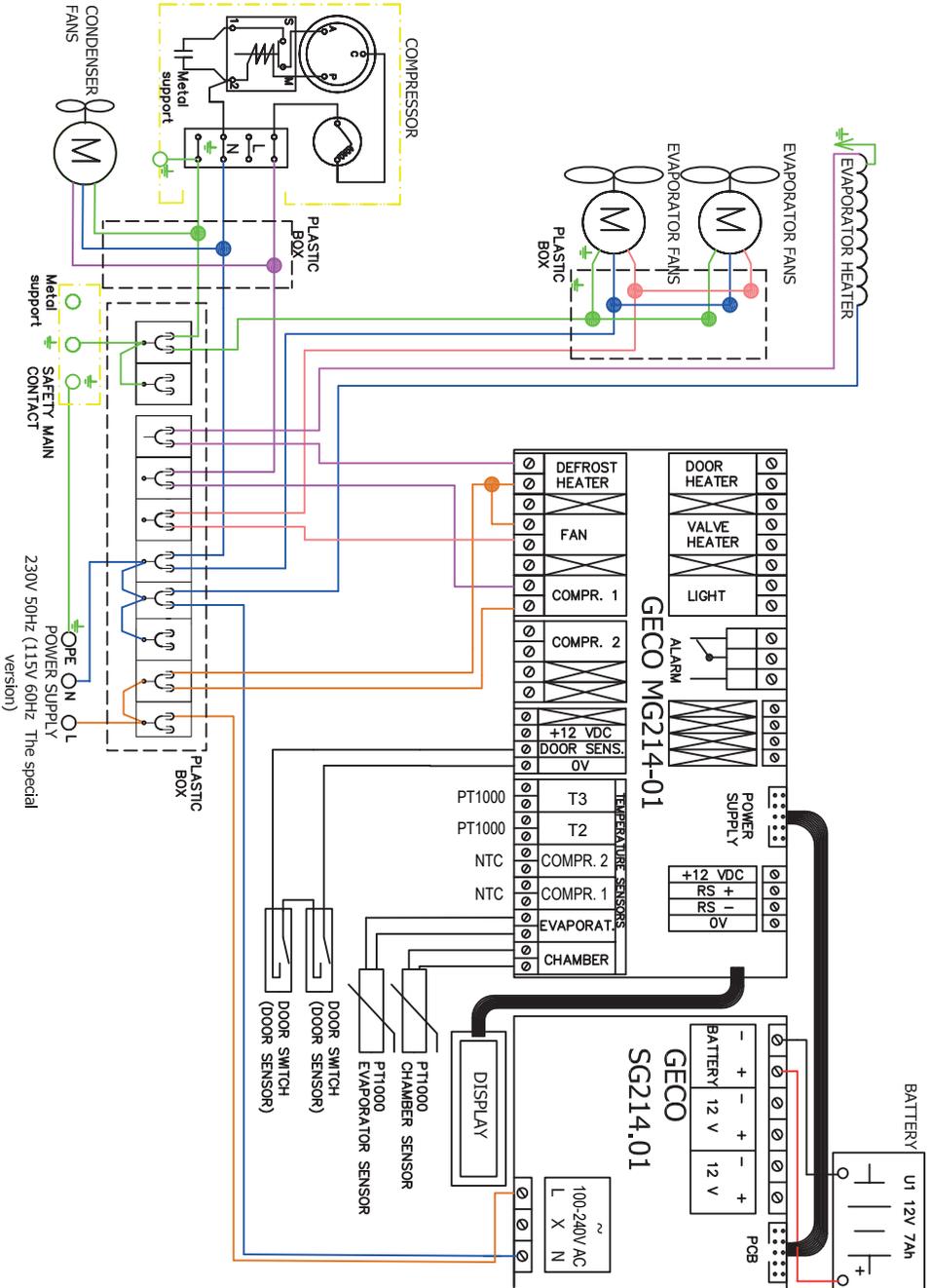
Description	Arctiko default settings	Customer settings
<b>Custom Settings (Password)</b>	0000	
<b>Set point</b>		
Refrigerator	+4,0	
<b>Alarm Settings:</b>		
<b>Alarm delay</b>		
Refrigerator	5 min	
<b>Door open alarm</b>		
Refrigerator	Enable	
<b>High temp. alarm</b>		
Refrigerator	+6	
<b>Low temp. alarm</b>		
Refrigerator	+2	
<b>Probe/eprom failure</b>		
Refrigerator	Enable	
<b>Power failure</b>		
Refrigerator	Enable	
<b>Logging time interval</b>		
Refrigerator	1	

Description	Arctiko default settings	Customer settings
<b>Advanced Settings (Password)</b>	0000	
<b>Calibration</b>		
Refrigerator	0,0	
<b>Automatic defrost</b>		
Refrigerator	06	
<b>Manual defrost</b>		
Refrigerator	OK	
<b>Hysteresis</b>		
Refrigerator	1,0	
<b>Temp. range limits</b>		
Refrigerator Max.	+6,0	
Refrigerator Min.	+2,0	

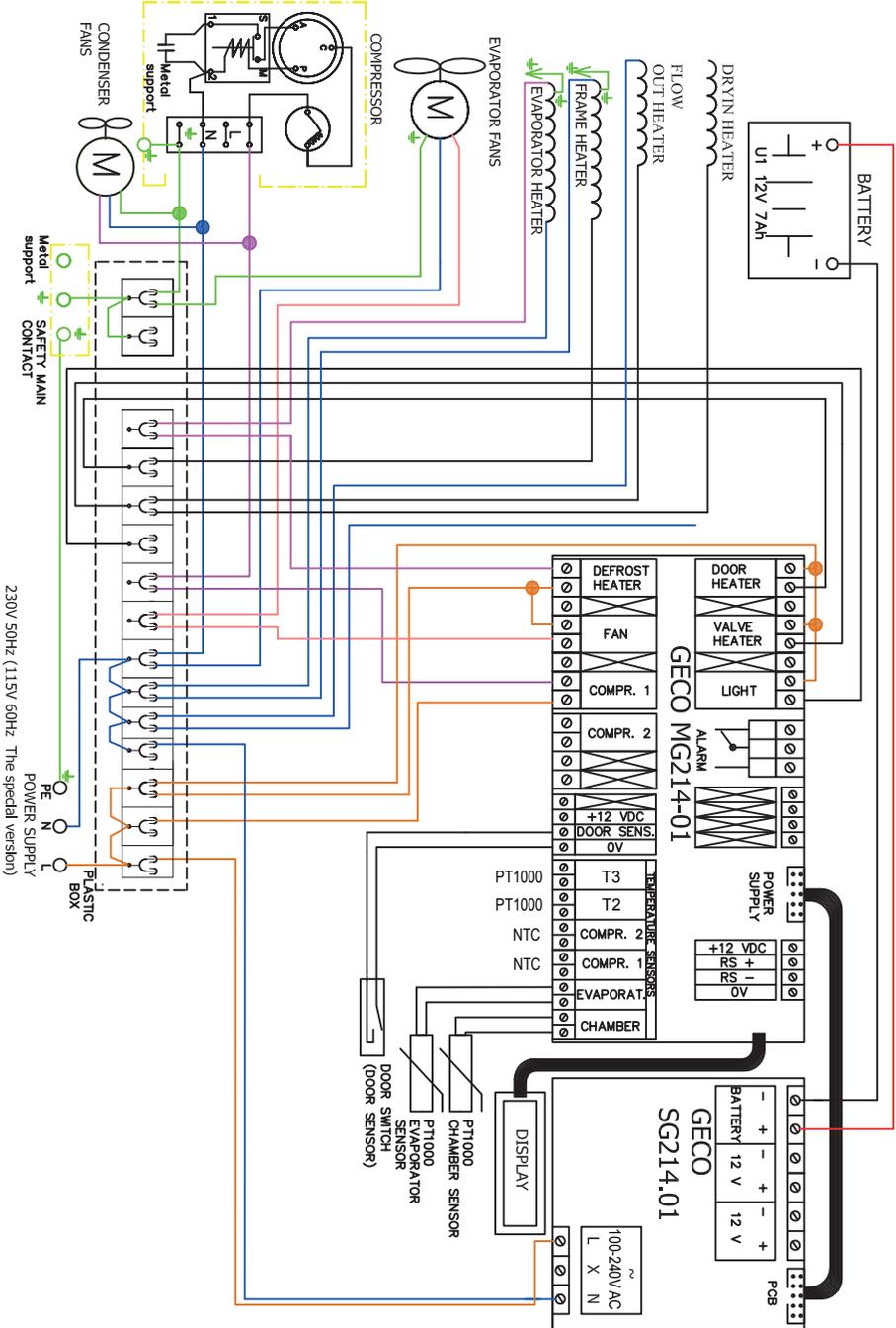
## Wiring diagram LR 100 / 300 / 500 / 700 / 900 / -ST



## Wiring diagram LR 1400 / -ST

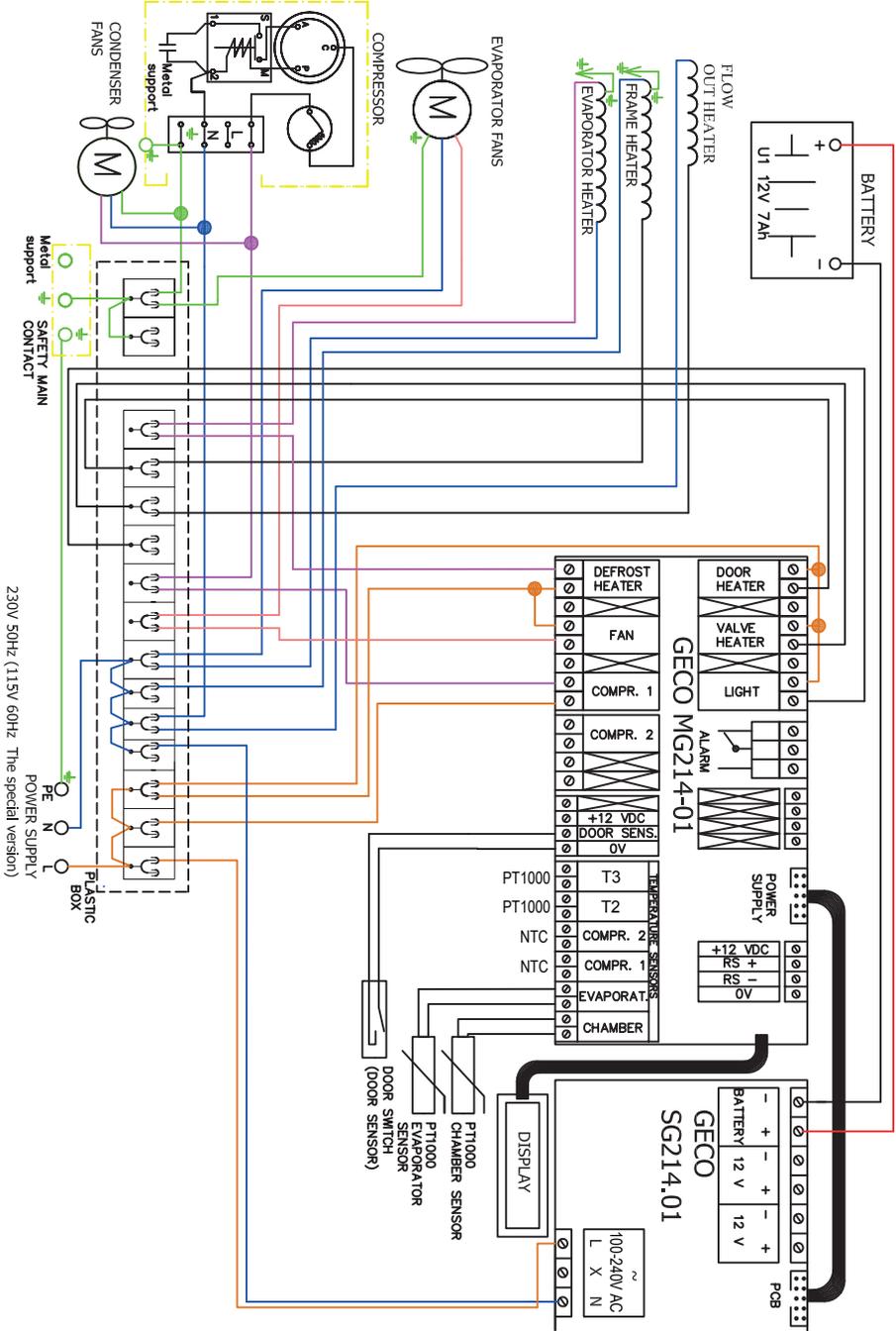


## Wiring diagram LF 300 / -ST

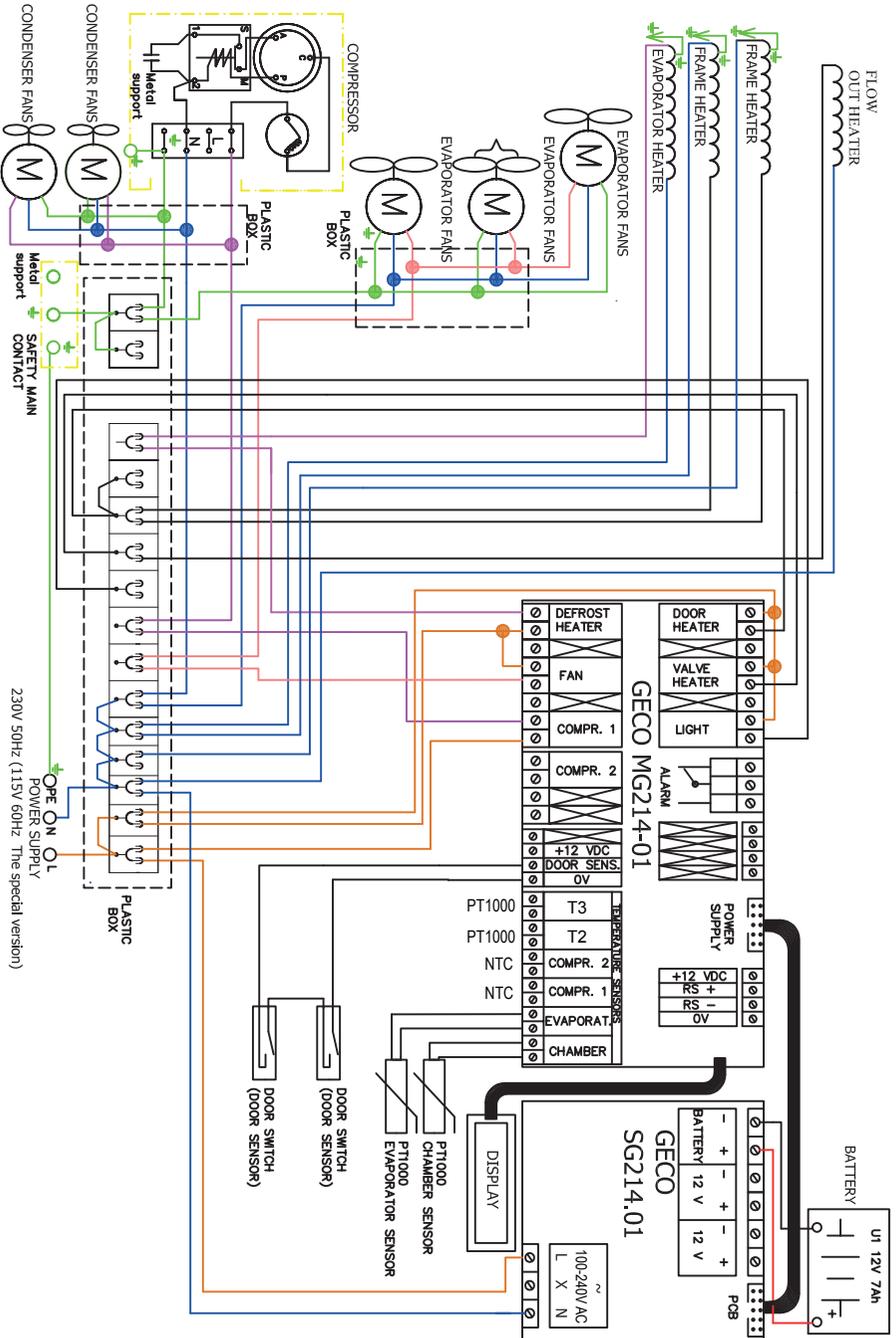


230V 50Hz (115V 60Hz The special version)

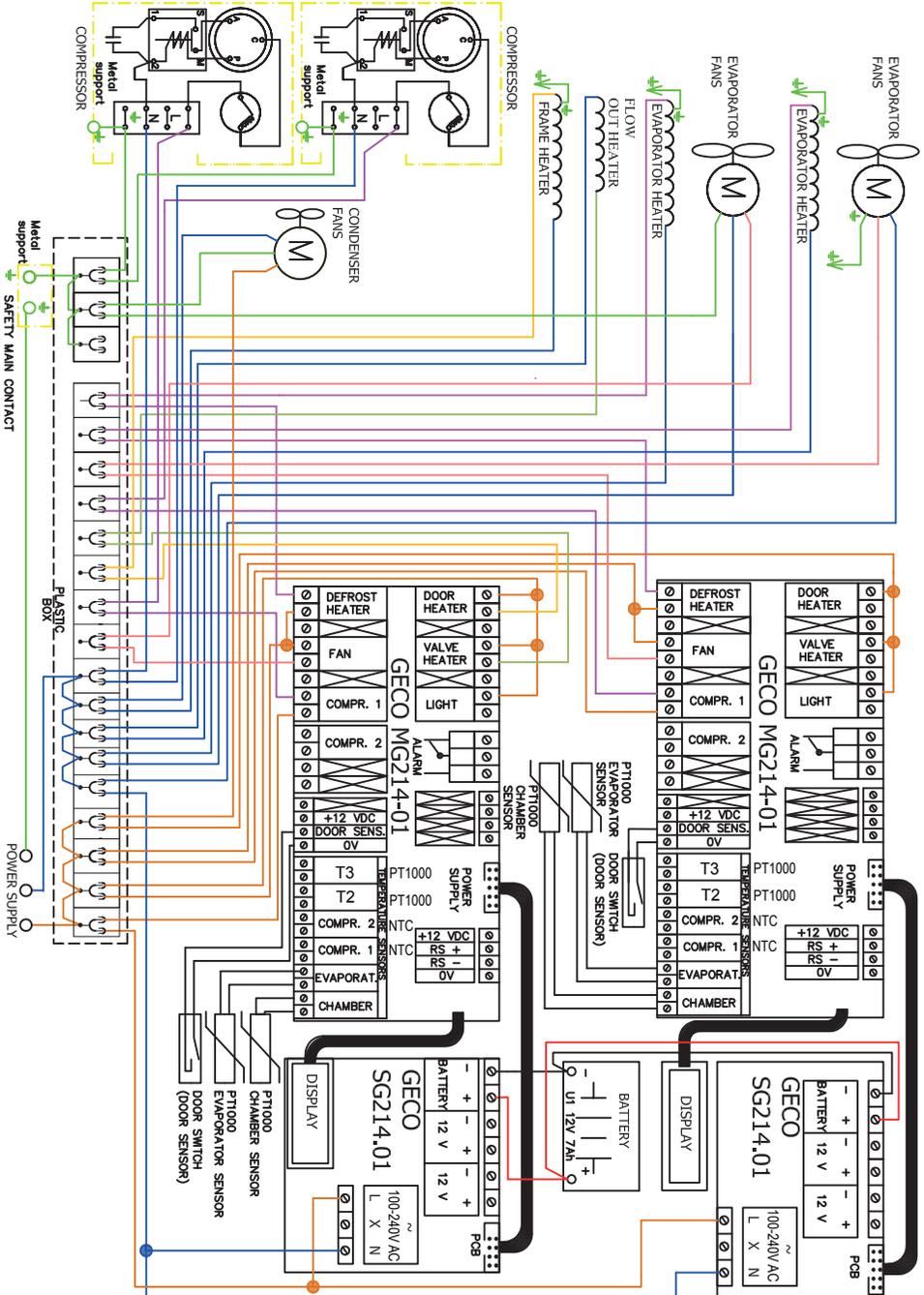
## Wiring diagram LF 500 / 700 / 900 / -ST



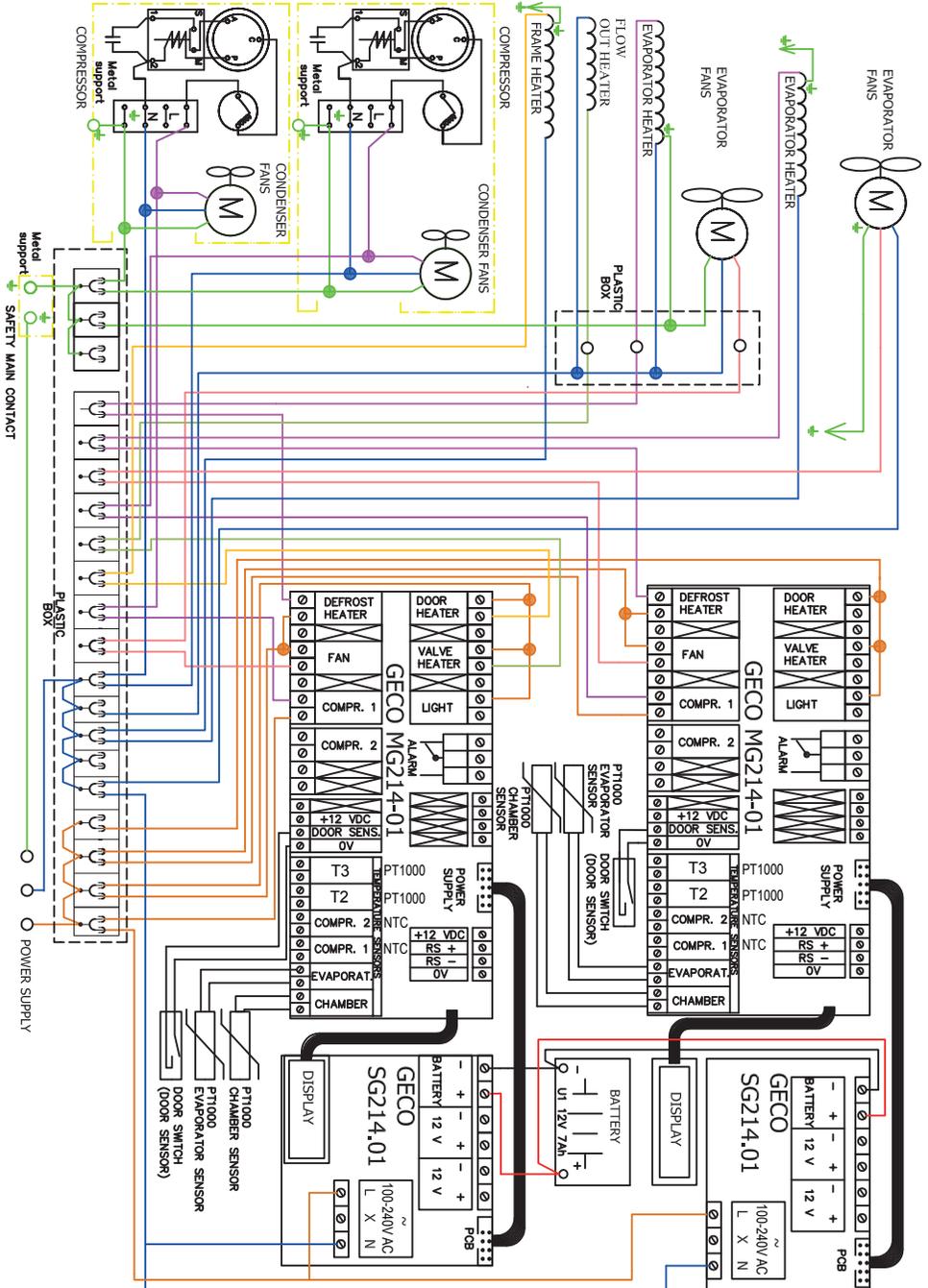
## Wiring diagram LF 1400 / -ST



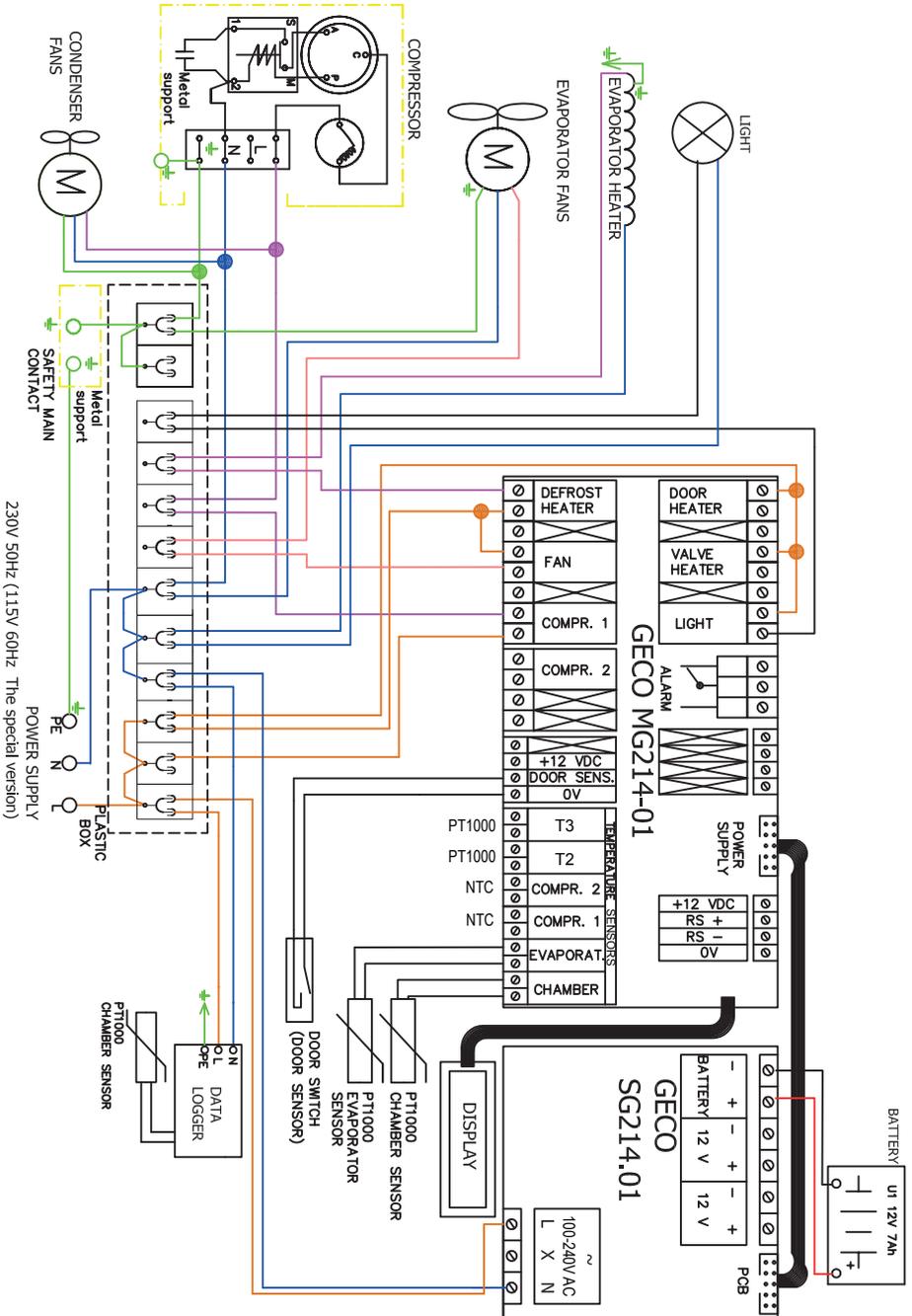
## Wiring diagram LFF 270 / -ST



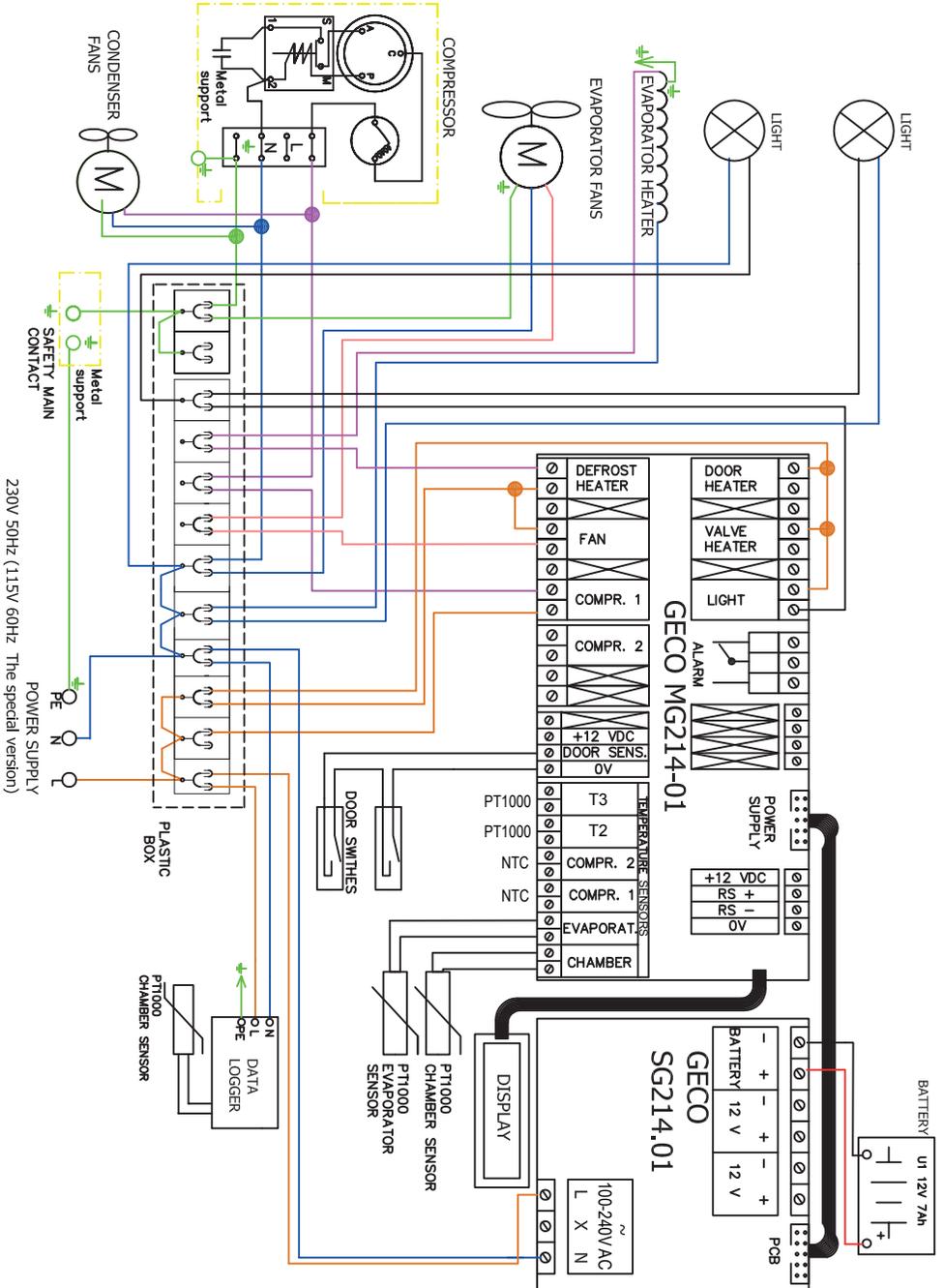
## Wiring diagram LFF 660 / -ST



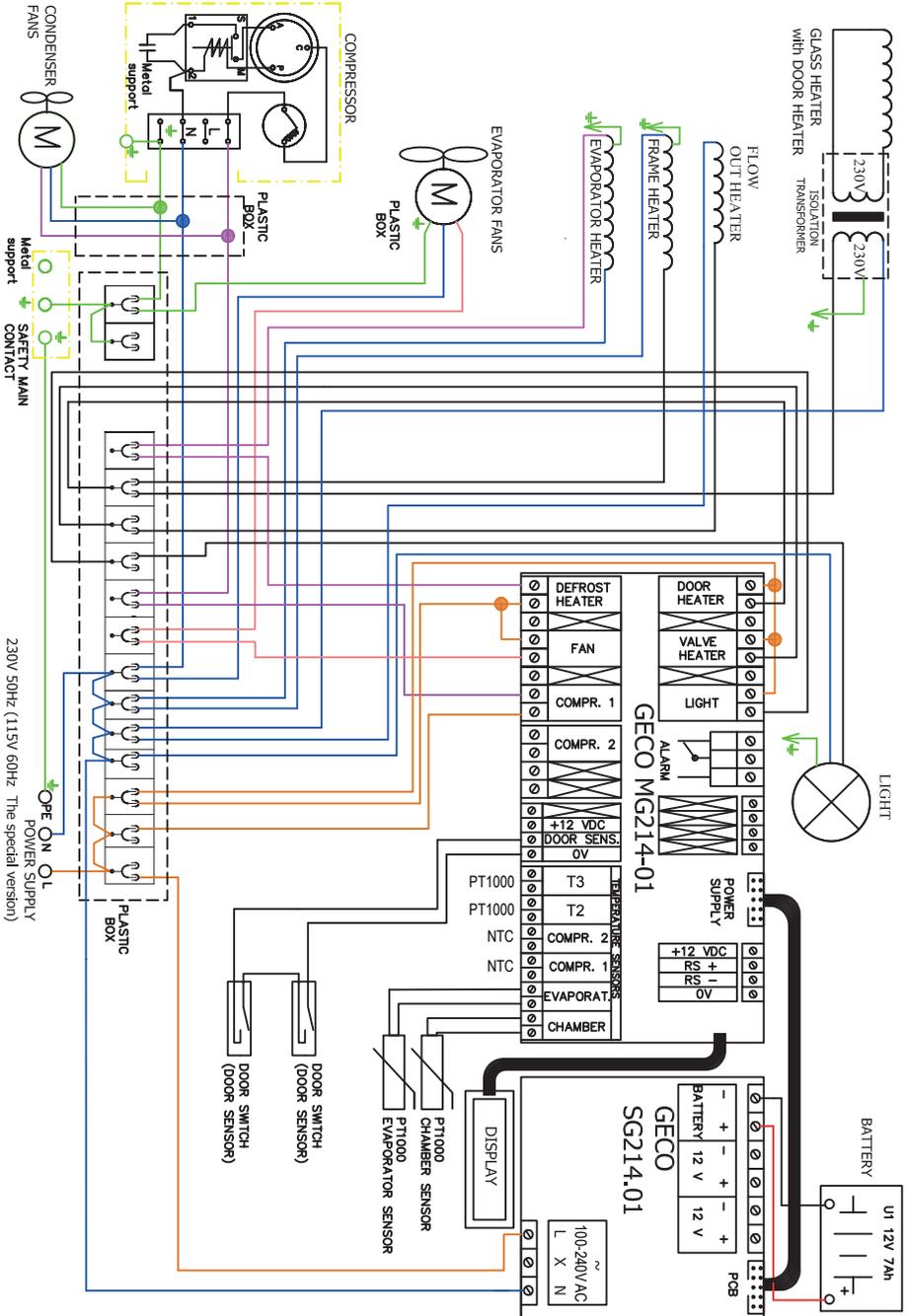
## Wiring diagram MBR / PR / 300 / 500 / 700 / 900 / -ST



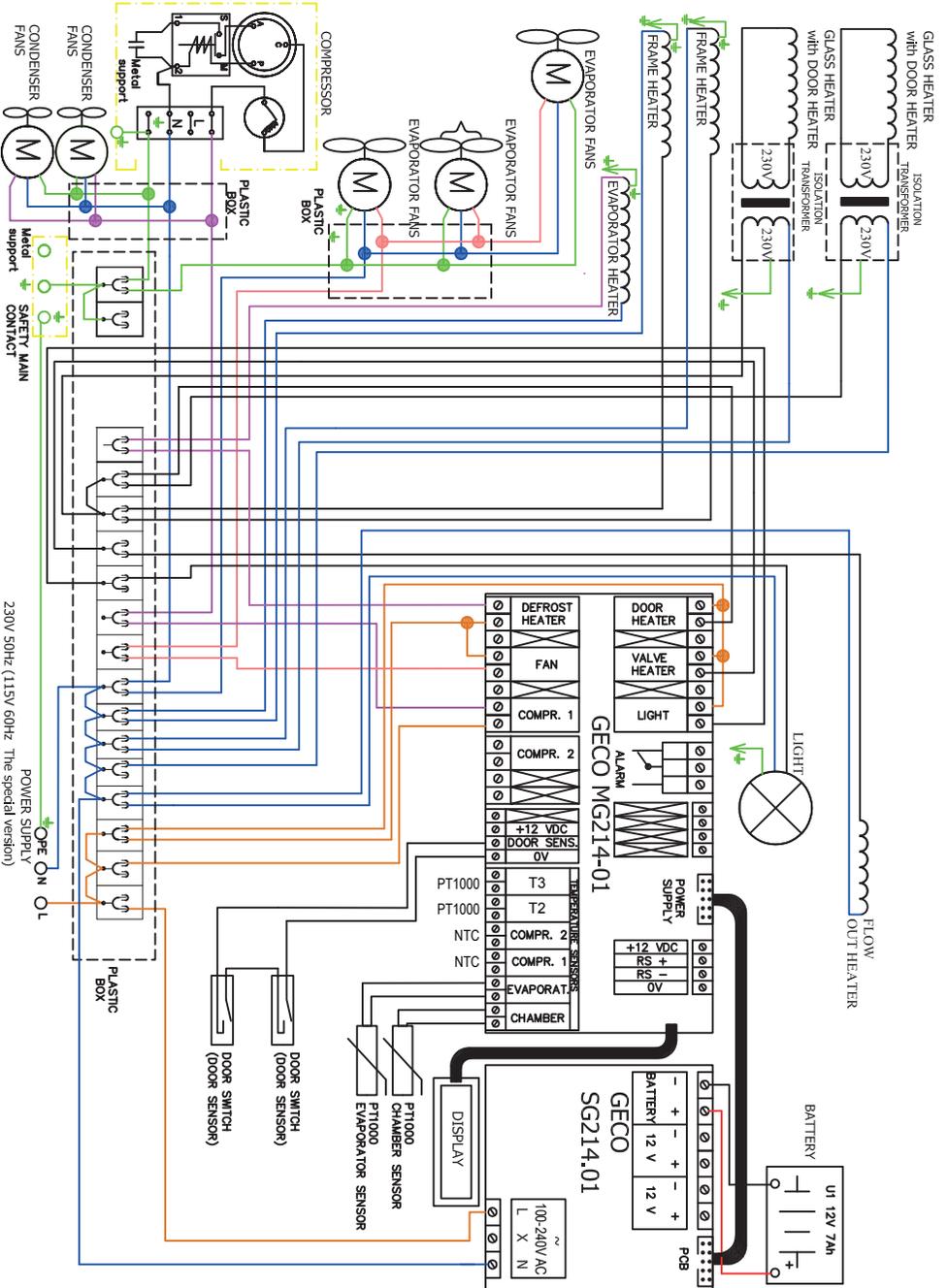
## Wiring diagram MBR / PR / 1400 / -ST



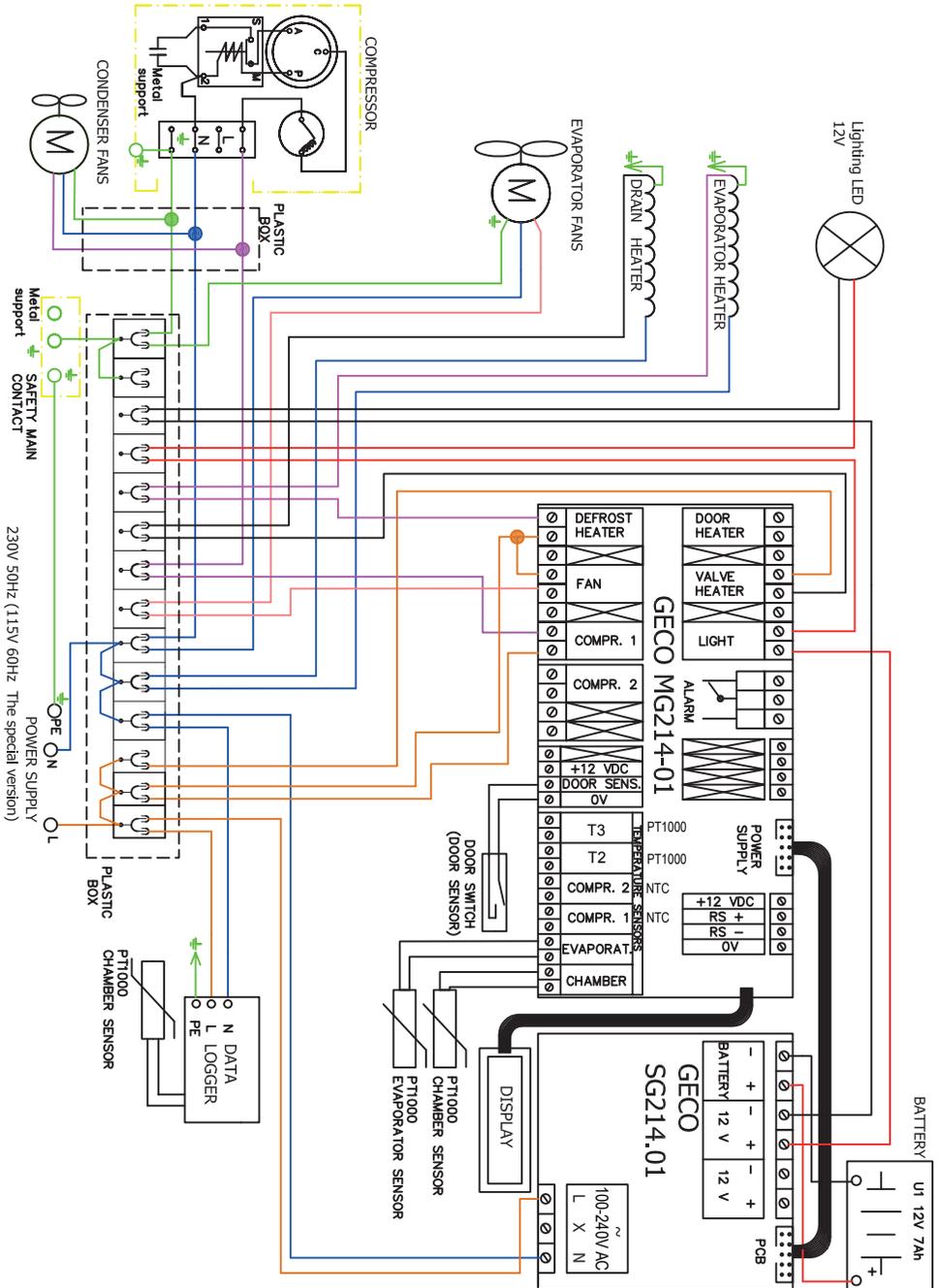
## Wiring diagram PF 300 / 500 / 700 / 900 / -ST



## Wiring diagram PF 1400 / -ST



## Wiring diagram MBR 100



**Notes:**

**Notes:**



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