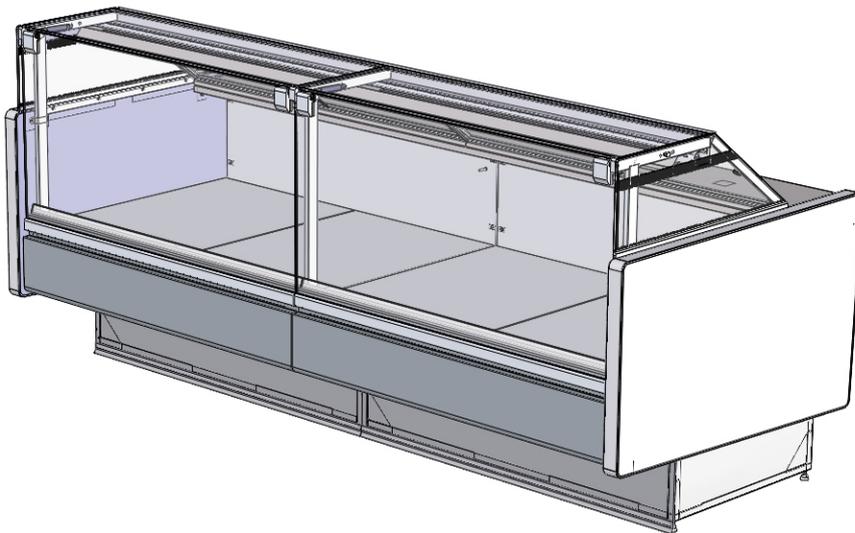


OPERATION AND MAINTENANCE MANUAL

Heated display case BERILL T



INTRODUCTION

The aim of the following guidelines is to inform a customer on how to operate, install, clean and maintain the equipment.

Read these guidelines carefully before running the equipment. Keep this document as a permanent source of information when operating the equipment and follow the corresponding instructions.

As a manufacturer, we are not responsible for any damage resulting from:

- Incorrect installation and/or operation;
- Making changes to the equipment without our written consent;
- Non-compliance with the established standards;
- Use of the equipment, inappropriate to its functional designation;
- Failure to follow the maintenance instructions;
- Use of non-original spare parts/accessories;
- Failure to follow the recommendations and instructions contained in this manual.

Notice:

All dimensions in drawings are given in mm, if not otherwise specified.

Illustrations may not fully correspond to the models shown in the guidelines.

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1. IMPORTANT NOTES



1.1 UNPACKING AND TRANSPORTATION

Make sure the package is intact. If it shows signs of improper handling or damage during transportation, indicate this in the accompanying transport documents and immediately inform the supplier.

The device is delivered on a wooden pallet adapted for operation by a hand cart or lift. Use lifting devices that match the weight of the equipment.

All packaging materials are recyclable and must be disposed of in accordance with local standards.

Do not press the side glass panels to move the display cabinet. They can break and cause serious injuries.

1.2 INTENDED USE

This unit of furniture is intended for the storage and display of food products whose storage temperature corresponds to the temperature range of the display case.

1.3 DEVELOPMENT AND STANDARDIZATION

This equipment has been designed and manufactured in accordance with the main requirements of the European Low Voltage Directive (LVD) 2014/35/EU and the EU Electromagnetic Compatibility Directive (EMC) 2014/30/EU, as well as in accordance with the provisions of the standard EN 60335-2-49 – Household and similar electrical appliances - Safety – Part 2 - 49: Particular requirements for commercial electric appliances for keeping food and crockery warm. The equipment has been developed and tested for compliance with environmental conditions of climatic class 3 (25 °C - 60%). When using the display case in an environment that has a different value from the above, the thermodynamic efficiency indicator may decrease and energy consumption may increase slightly.



2. SAFETY MEASURES



2. CHILD SAFETY

Children should be supervised and not allowed to play with the device. Keep all packaging materials, especially plastic ones, out of their reach.



2.2 GENERAL SAFETY RULES

This equipment was designed and manufactured in accordance with the requirements and environmental conditions of climate class 3 (25 ° C - 60%).

The equipment is not intended for use outdoors or in the rain.

Do not store explosive substances or objects, such as aerosol cans containing flammable mixtures, inside this appliance.



ATTENTION: it is strictly forbidden to turn on the display case without grounding and move the display case that is under voltage!

Make sure that both the supply voltage and the current corresponds to the parameters indicated on the nameplate.

Prior to performing cleaning or maintenance the display case must be disconnected from the electrical network.



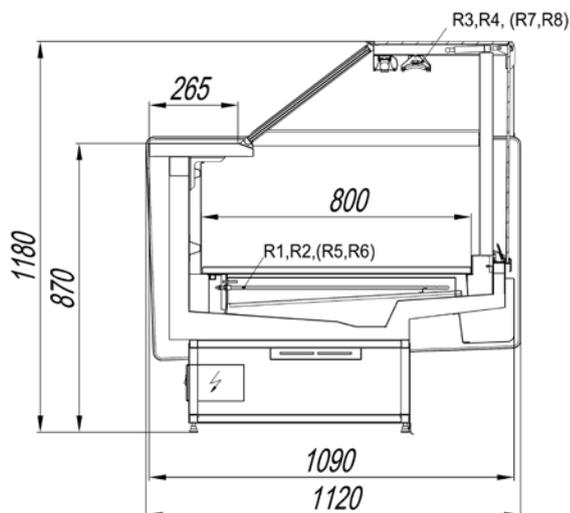
Do not touch the heating elements during operation or after turning off the device, as they may be very hot.

If the equipment ignites, turn it off and use a fire extinguisher, but only the powder type. Do not use water to extinguish.

3. GENERAL CHARACTERISTICS

Technical data	Measurement unit	Typical size	
		125	250
Climatic class		3 (25°C / 60% Rh)	
Useful volume temperature	°C	+60	
Volume of the showcase	m ³	0,8	1,6
Useful volume	m ³	0,22	0,44
Electric data			
Power supply	V/Hz	400 /3+N /50	
Electrical equipment protection rate	code	IP 20	
Max electrical power input Rated electricity input	W	3200	6400
Infrared lamps	W	3 x 300	6 x 300
Lighting	type	LED	
Backlight power consumption	W	18	36
<u>Rated power consumption per day</u> *1 Basic set of the cabinet (light-12h)	kW*h	21.4	42,8
Dimensions			
<u>Overall dimensions:</u> length without side walls	mm	1250	2500
length with side walls		1350	2600
width without side walls		1090	1090
width with side walls		1120	1120
height without side walls		1180	1180
height with side walls		1180	1180
Weight without packaging	kg	230	380
*1 - with a constant surrounding temperature of t 25°C and a relative humidity 60%.			

3.1 SECTIONS AND PLANS



4. INSTALLATION AND MOUNTING

This type of equipment should be installed and mounted by qualified and experienced technicians.



4.1 IMPORTANT SAFETY INSTRUCTIONS

Please, follow these instructions while installing the cabinet:

- Personnel responsible for moving and installing equipment must have flexible and non-slip work gloves, safety glasses, and safety shoes that must be used whenever necessary.

- Follow the instructions in the "Installation" section of the current manual and additional guidelines, if applicable.



- Do not walk on the equipment.

- Do not install and use the equipment if it is damaged.

At installing the device near a wall, respect the distance of not less than 60 mm.

4.2 EQUIPMENT MOUNTING

Thoroughly remove any polyethylene film protecting the components and parts of the display cabinet.

If this manual contains a Chapter with installation Instructions, follow the sequence indicated for proper installation.



Align the display case in a horizontal position by adjusting the leveling feet.

Use only hand tools to fix screws when mounting glass components and parts.

We recommend installing, if necessary, mechanical protection devices adapted to the equipment to prevent possible damage, for example, from the impact of a trolley, a polisher, a loader, etc.

4.3 ADJUSTMENT OF THE FRONTAL GLASSES

Adjustment of the frontal glasses should ensure minimal and sufficient clearance between them in 'lowered' and 'lifted' positions. A contact of glasses is unacceptable.

4.4 POWER SUPPLY CONNECTION

Make sure the voltage of the electric supply corresponds to the data specified on the nameplate of the device. Deviations in the electric supply circuit voltage should not exceed $\pm 10\%$ from those specified on the nameplate.

The equipment does not have any protection from overvoltage, so it is recommended to check the safety level of the electric circuit to which the device will be connected to.

The device has a terminal for connecting with a potential equalization connector when it is necessary to prevent the presence of voltage when touching between the grounding equipment and metal parts that may accidentally come into contact with current-carrying electrical wires. This terminal, marked with the corresponding symbol, is located in the electronics unit and is intended for connection to the ground circuit with a wire with a cross section of 2.5-6 mm².



Connect the equipment to the electrical network only at the end of installation.

5. OPERATION AND FOODSTUFF ALLOCATION

It is important to note that this equipment is not designed to increase the temperature of products, but only to maintain the temperature at which they are stored

To optimize the operation of the equipment and keep the food in good condition, use only the add-ons and accessories supplied with the display case.

the equipment is equipped with glass shutters, they need to be opened and closed carefully.

Do not use the roof of the display cabinet to store packing, spare parts and other materials.

5.1 PREPARING THE DISPLAY CASE FOR USE

Before using the display case, it is required to wash (clean) its inner and outer surfaces with a detergent, see section 8 for recommendations on cleaning the display case.

Before cleaning, make sure that the display case is disconnected (the main switch of the display case on the control panel is turned off, the switches "OPERATION" and "LIGHTING" are fixed in the "OFF" position).

Avoid using abrasives and solvents that can damage the surface of the display case. Avoid getting water and detergents on the parts of the display case that are under electric voltage.

It is recommended to wash the cleaned surfaces with clean water and wipe dry.

Lifting the front window of the showcase, lift it without jerks and with two hands, holding on to the middle part until it locks in the upper position. Close the display case in the same way until the front window is fixed in the lower position.



ATTENTION: IT IS UNACCEPTABLE TO LIFT UP (LOWER DOWN) THE FRONT GLASS HOLDING ITS EDGE. THE EXCESSIVE EFFORT AND SKEWING OF THE GLASS MAY OVERLOAD THE EDGE OF THE GLASS AND, AS A RESULT, DESTROY IT.

5.2 TURNING ON THE DISPLAY CASE

Turn on the display case only after carrying out all preparatory works fulfilled by qualified personnel.

To turn on the showcase, do the following:

- apply the power to the display case by turning on the automatic switch on the display case control panel;
 - turn on the toggle switches "OPERATION" and "LIGHTING" located on the control panel.
- After a few seconds, the display case will turn on.

After the temperature in the display case reaches the set values, the food staff can be loaded.

To turn off the display case, turn off the toggle switches "OPERATION" and "LIGHTING", disconnect the case from the power by turning off the automatic switch on the control panel.



ATTENTION: IF A BURNING SMELL APPEARS, THE OPERATION OF THE DISPLAY CASE SHOULD BE STOPPED IMMEDIATELY, AND QUALIFIED MAINTENANCE PERSONNEL SHOULD BE CALLED TO ESTABLISH AND ELIMINATE THE CAUSE OF ITS ABNORMAL OPERATION.

5.3 CONTROL AND ADJUSTMENT OF THE OPERATING TEMPERATURE

If the equipment is not connected to a central monitoring system with an alarm, you should check the temperature value displayed on the controller screen several times a day, or at regular intervals, in accordance with local regulations.

The digital display of the electronic controller mounted on the control panel of the electronics unit and the mechanical thermometer mounted on the front panel of the showcase allow visual control of the operating temperature.

The electronic controller manages Automatic control and maintaining of the operating temperature within the specified limits.

The procedure for changing the operating temperature setting is given in **Appendix C**.

As a reminder, the controller has factory settings and their changes must be carried out by a qualified specialist.

5.4 LOADING OF THE DISPLAY CASE

Loading the goods into the display case may begin when the operating space of the case obtains required temperature.

6. MAINTENANCE AND CLEANING



Before cleaning disconnect power supply of the display case.

Maintenance and care of the display cabinet encourage sales, but most importantly it is a safety measure to protect food products from microorganisms and bacteria and therefore the customers' health.

Good care and proper cleaning will establish a positive image of the seller.

6.1 CLEANING



Before cleaning or maintenance the equipment must be disconnected from the power supply to guarantee the absence of an electric current in the system.

Do not use abrasive materials and substances or solvents, salt acids, detergents with chlorine or pure spirit. Do not use metal or abrasive swabs for cleaning in order not to damage the appearance and ensure a long service life of the equipment.



Clean the interior and exterior surfaces regularly with soft cloth, dampened with warm water and a neutral chlorine-free detergent. Dry all water residues thoroughly using a sponge. To clean the glass parts, use an appropriate liquid cleaner.



When washing the floors near the equipment, try to avoid accidental splashes onto the display case – the chemical substances used for washing floors may fall on the equipment's components.

Notice: after cleaning foodstuffs must be loaded into the display case only once the inside temperature reaches the defined values.

6.2 REGULAR MAINTENANCE



Before cleaning or maintenance the equipment must be disconnected from the power supply to guarantee the absence of an electric current in the system.

Purpose of cleaning is to remove pathogenic microorganisms on external parts and interiors of the case and to maintain physical appearance of the display case in a proper way.

Exterior parts of the showcase should be cleaned daily (weekly) with disinfectant compound.

The purpose of this cleaning is to emphasize the aesthetics of the appearance of the display case, to remove pathogens on the outer parts of the case.

During the cleaning process, the outer parts of the display case should be washed with a disinfectant detergent. Wash the treated surfaces thoroughly with clean water and wipe dry. During the cleaning process, do not allow water and detergents to get on the parts of the display case that are under electric voltage.

Clean interiors of the display case at least once a month to remove pathogens inside the display area. For cleaning of the case use disinfectant detergents.

Before cleaning, all systems of the display case should be switched off, the display case completely released from foodstuffs. Wait until the temperature inside the display case reaches room temperature.

To start cleaning - take out the food containers, wash them as well as the inner surface of the display case with a disinfectant detergent. The cleaned surfaces should be thoroughly rinsed with pure water and wiped dry.

After the cleaning is completed, all the removed parts must be installed back in the original position and the display case must be turned on. As the temperature in the display case reaches the set value, you can load it with foodstuffs.

7. LIGHTING

7.1 LIGHTING / LAMPS REPLACEMENT.

When replacing the lamps, disconnect the equipment from the power supply.

Any changes done to the electric grid must be performed only by an electrical engineer specialist. In the case that this warning is violated, the company is not responsible of any damages incurred.

Please recycle used lamps in accordance to local regulations.

8 RECOMMENDATIONS ON THE TROUBLE-FREE FUNCTIONING OF THE DISPLAY CASE

In order to provide trouble-free functioning of the showcase it is recommended the following:

- control the temperature of the operating space of the showcase using the digital display of the electronic controller;
- timely remove food residues fallen inside the display case;
- inform the maintenance service specialist about the detected changes in the operation of the display case (temperature change inside the case, abnormal fogging of glasses, etc.);
- monitor once a month the functioning of the display case involving the maintenance service specialist.

9. ENVIRONMENTAL PROTECTION

This equipment does not contain chlorofluorocarbons (CFC).

9.1 UNPACKING

All packing materials are recyclable and should be disposed of in compliance with local regulations.

9.2 END OF THE EQUIPMENT'S LIFE-CYCLE

At the end of a useful life of the equipment, we recommend the following:

- Make it unserviceable (for example, cut power cable)
- Remove glass shutters or other elements which may be dangerous for children or pets;
- Do not destroy the display cabinet.

The European Directive 2002/96/EC (WEEE) extends to this equipment, and it cannot be sent to a municipal waste deposit and consequently must be delivered to a specialized point for electric and digital equipment wastes collection to perform accurate recycling.

10. SPECIFIC CONDITIONS

Information in these guidelines is valid at the moment of printing. Nevertheless, under the conditions of constantly developing technologies and product evolution, we reserve the right to change technical characteristics and content of this document.

We are not responsible for alterations introduced by a consumer towards the equipment and non-compliance with the recommendations and operating principles contained in this manual.

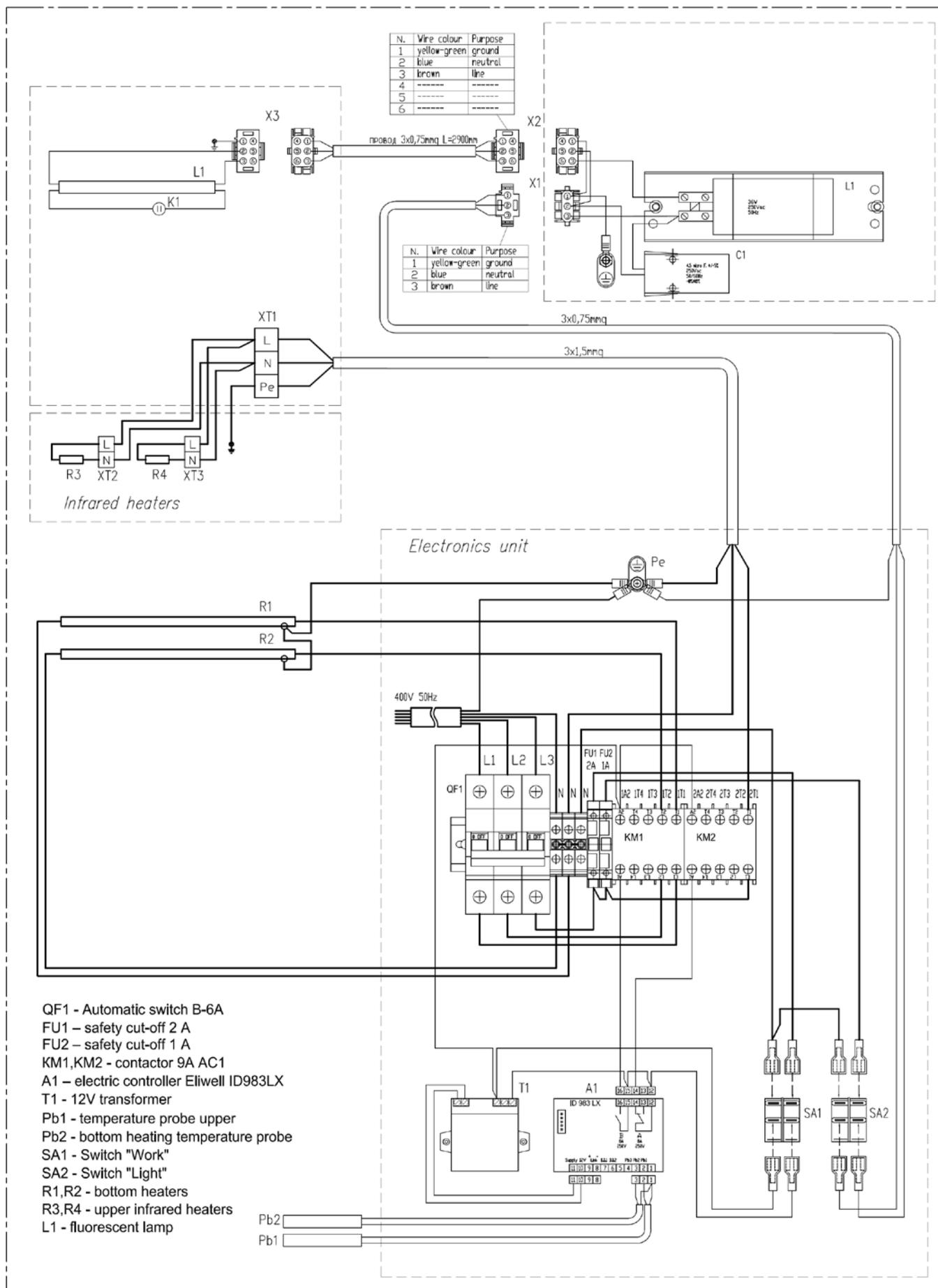
11. WARRANTY FOR MATERIALS

The components and parts of the display cabinet are covered by a 2-year warranty, starting from the date of issue of the display cabinet, which is indicated on the nameplate.

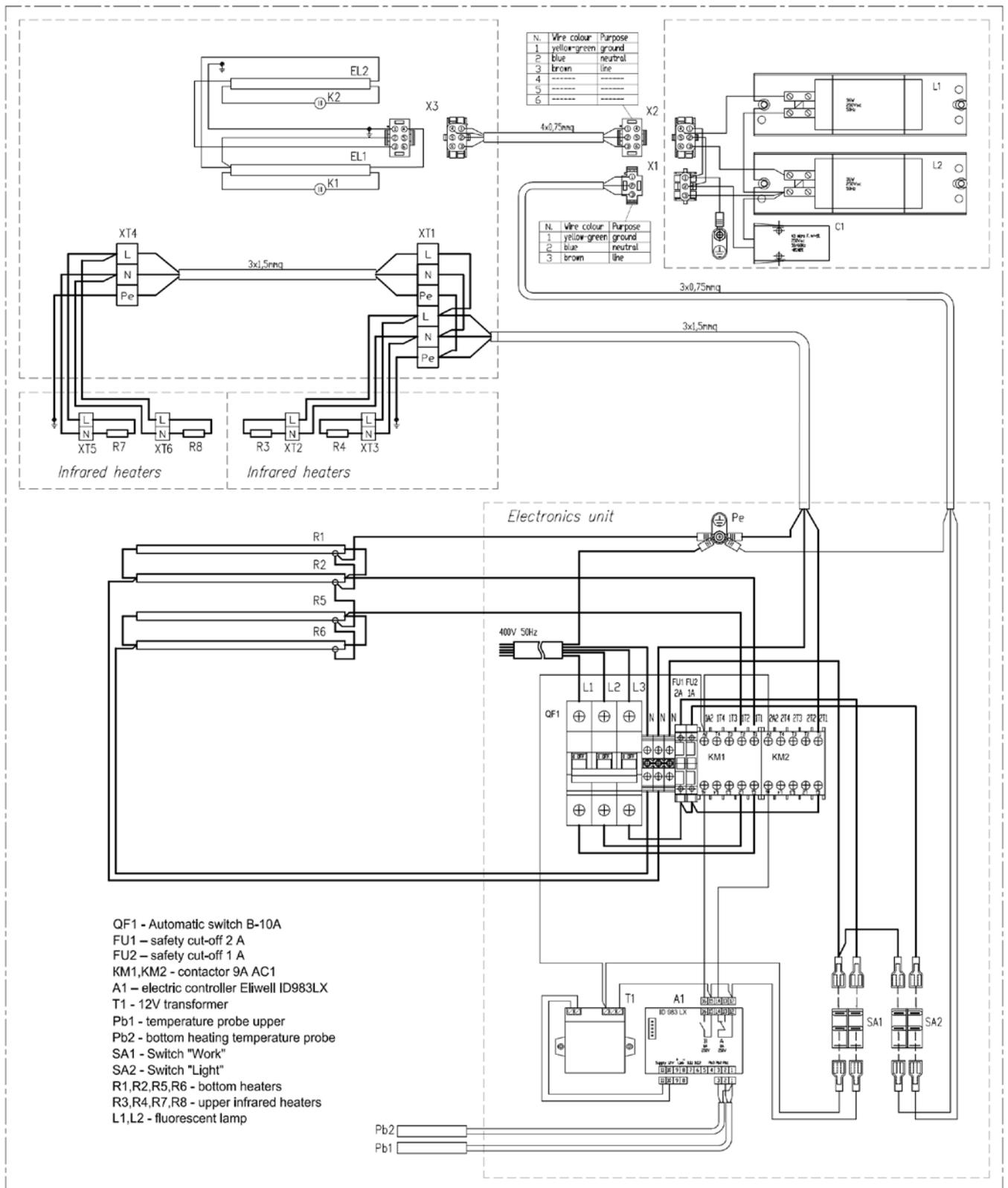
The warranty does not cover consumable parts (lamps, starters for fluorescent lamps etc.).

Warranty service expires in the event of damage to the display cabinet due to improper use, violation of safety rules or loss of the nameplate.

Appendix A. ELECTRIC WIRING DIAGRAM BERILL T 125



Appendix B. ELECTRIC WIRING DIAGRAM BERILL T 250



- QF1 - Automatic switch B-10A
- FU1 - safety cut-off 2 A
- FU2 - safety cut-off 1 A
- KM1, KM2 - contactor 9A AC1
- A1 - electric controller Eliwell ID983LX
- T1 - 12V transformer
- Pb1 - temperature probe upper
- Pb2 - bottom heating temperature probe
- SA1 - Switch "Work"
- SA2 - Switch "Light"
- R1, R2, R5, R6 - bottom heaters
- R3, R4, R7, R8 - upper infrared heaters
- L1, L2 - fluorescent lamp

Appendix C. CHANGING THE OPERATING TEMPERATURE OF THE DISPLAY CASE

Operating temperature is set up by changing the value of the parameters in the display case controller:

- "FSt" (pallet temperature);
- "Set" (temperature of the display case upper space).

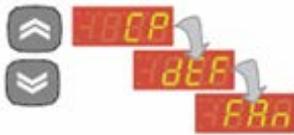
To change the value of the "FSt" parameter (upper place temperature) do the following:

Enter the **Programming** menu by pressing and holding the "set" button of the controller for at least 5 seconds. The label of the first menu folder "CP" will appear on the display.

> 5 seconds



Use the "Up" and "Down" buttons to scroll through the programming menu folders until the "FAn" folder



While on the folder label "FAn", press the "set" button



the first folder parameter will appear on the controller display.

Use the "Up" and "Down" buttons to switch to the "FSt" parameter.



Press the "set" button on the "Fst" parameter and you will see its value.



Set the new temperature value by "Up" and "Down" buttons



Press the "fnc" button



The entered parameter has been saved.

Turn off and turn on the display case again, now the case will work with the newly set value of the lower heating temperature.

To change the value of the "Set" parameter (tray temperature), it is required the following:

Turn on the showcase. Press the "set" button on the controller, "Set" will be displayed on the scoreboard.



Press the "set" button on the "SEt" parameter and you will see its value.



Using “Up” and “Down” buttons set the new temperature value



Press the “fnc” button.



The entered parameter has been saved.

Turn off and turn on the display case again, now the case will work with the newly set temperature value of the upper space

Find below an example of a sequence of actions to change the value of the “FSt” parameter from 60°C to 80° C

>5 seconds



Turn off and turn on the display case again.

Another example of a sequence of actions to change the value of the “SEt” parameter from 60°C to 80° C



Turn off and turn on the display case again.

Appendix D

THE LIST OF THE MAIN SETTINGS FOR THE ELIWELL ID 983 LX MANAGING THE FUNCTIONING OF THE BERILL T DISPLAY CASE

Parameter	Description of the controller parameter	Parameter value	Level	U.M.	Function
Set	Setpoint	+65°C		°C/°F	The upper heating temperature
COMPRESSOR SECTION (page labeled "CP")					
diF	diFferential.	2,0	1	°C/°F	Differential activation of the upper heating relay
HSE	Higher SEt. Maximum possible set point value.	+85	1	°C/°F	The maximum possible set value of the upper heating temperature
FANS (page labeled "FAn")					
FSt	Fan Stop temperature.	65	1	°C/°F	Lower heating temperature Температура нижнего подогрева
FAd	FAn differential.	2,0	1	°C/°F	Differential activation of the lower heating relay
ALARMS (page labeled "AL")					
AFd	Alarm differential.	2,0	1	°C/°F	Differential activation of the alarm signal
HAL	Higher ALarm. Maximum alarm.	90,0	1	°C/°F	The value of the higher temperature limit
DISPLAY (page labeled "diS")					
ddd	Selection of the value type to be displayed: 0 = Set point; 1 = probe 1 (Pb1); 2 = probe 2 (Pb2); 3 = probe 3 (Pb3).	1	2	num	Indication on the device display: 1=temperature of the upper space 2= steam temperature in the reservoir
CONFIGURATION (page labeled "CnF")					
H21	Digital output configurability 2. (B) 0 = Disabled; 1 = Compressor; 2 = Defrost; 3 = Fans; 4 = Alarm; 5 = Auxiliary; 6 = Standby; 7 = Light; 8 = Buzzer	3	2	num	B Output configuration: 3 = bottom heating control
H22	Digital output configurability 1. (A) Same as H21.	1	2	num	A Output configuration: 1 = upper heating control
H25	Buzzer output configurability 0= disabled; 8= enabled (default): 1-7, 9-10= not used	8	2	num	Buzzer Configuration 8=active

ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ ЕС
EC Declaration of Conformity

Мы заявляем под нашу исключительную ответственность, что продукт:

We hereby certify under our exclusive responsibility that this product:

Витрина тепловая **БЕРИЛЛ Т**

BERILL T *Heated display case for commercial use*

к которой относится настоящая декларация, соответствует следующему стандарту:

to which this declaration refer, is in conformity with the following standard:

EN 60 335-2-49 - бытовые и аналогичные электрические приборы – безопасность -

Часть 2 - 49: особые требования к коммерческим электроприборам для поддержания тепла продуктов питания и посуды.

EN 60335-2-49 - *Household and similar electrical appliances - Safety -*

Part 2 - 49: Particular requirements for commercial electric appliances for keeping food and crockery warm.

в соответствии с директивами:

is in conformity with the Directives:

2014/30/EU (*Electromagnetic Compatibility*)

2014/35/EU (*Low Voltage*)

Kostroma, 2018-05-28

Avsiévitch V. A.

Generaldirektor

Note

The contents of this document are subject to change without notice