



SINGLE-DECK MERCHANDISER

INSTALLATION & OPERATIONS MANUAL

WARNING / FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING

R290 flammable refrigerant in use. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

MIDA

3'X3', 4'X4', 4'X8'

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To ensure proper functionality and optimum performance, it is strongly recommended that Hillphoenix display cases be installed/serviced by qualified and certified technicians who have experience working with commercial refrigerated display merchandisers and storage cabinets. For a list of Hillphoenix authorized installation/service contractors, please visit our Web site: www.hillphoenix.com

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R5 v.0
02/24

IMPORTANT

At Hill PHOENIX®, the safety of our customers and employees, as well as the ongoing performance of our products, are top priorities. To that end, we include important warning messages in all Hill PHOENIX installation and operations handbooks, accompanied by an alert symbol paired with the word "DANGER", "WARNING", or "CAUTION".

All warning messages will inform you of the potential hazard; how to reduce the risk of case damage, personal injury or death; and what may happen if the instructions are not properly followed.

DANGER

Indicates a potential safety risk for refrigerated case users and/or the refrigerated case itself, the possible consequences being damage to the case and/or serious injury to workers.

NOTE

Draws attention to important details that personnel must be aware of and always keep in mind to ensure proper use and operation of the refrigerated case.

FORBIDDEN

Draws attention to tasks that are absolutely forbidden; failure to observe this warning can cause damage to the refrigerated case and/or injury to workers. Hillphoenix will not be held liable per damage to things and/or injury to persons caused by failure to observe such warnings.

Rev.	Date	Change Description	Author
4.0	4/21	compressor compartment diagram, parts list, electrical diagrams and troubleshooting	D. Drillion
5.0	2/24	updated parts list	T.A.G.

TECHNICAL DATA

MIDA

Mobile Single-Deck Self-Contained Merchandiser
(3'X3'), (4'X4') & (4'X8')

SYSTEM REQUIREMENTS

Case Size	Volts	Phase	Electrical Circuits Per Case	Total Amps	MCA	MOP
3' x 3'	120	1	1	3.6	4.37	15A
4' x 4'	120	1	1	8.6	10.96	15A
4' x 8'	120	1	1	17.9	20.4	25A
4' x 8'	120	1	(2 (1 OF 2)*)	9.7	12.1	15A
4' x 8'	120	1	(2 (2 OF 2)*)	8.2	10.3	15A

ELECTRICAL DATA

Case Size	Fans Per Case	High Efficiency Fans		Anti-Condensate Heat	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
3' x 3'	1	0.02	3.0	0.40	48.0
4' x 4'	2	0.05	7.0	1.03	123.0
4' x 8'	4	0.10	14.0	2.05	246.0

GUIDELINES AND CONTROL SETTINGS

Case Size	Case Application	24hr Energy Usage (kWh)	Set Point St (°F)	Hysteresis rd (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
3' x 3'	Dairy	---	29	9	---	---
3' x 3'	Deli	2.84	26	9.5	21	120
4' x 4' (Serial # "C")	Dairy	---	11	14	---	---
4' x 4' (Serial # "D")	Dairy	---	17	18	---	---
4' x 4' (Serial # "C")	Deli	---	10	14	---	---
4' x 4' (Serial # "D")	Deli	---	17	16	---	---
4' x 4' (Serial # "C")	Fresh Meat	14.61	6	2	7	120
4' x 4' (Serial # "D")	Fresh Meat	---	8	4	---	---
4' x 8' (Serial # "C")	Dairy	---	13	14	---	---
4' x 8' (Serial # "D")	Dairy	---	20	5.5	---	---
4' x 8' (Serial # "C")	Deli	---	11	14	---	---
4' x 8' (Serial # "D")	Deli	---	18.5	5.5	---	---
4' x 8' (Serial # "C")	Fresh Meat	28.54	6	2	7	120
4' x 8' (Serial # "D")	Fresh Meat	---	16	3.5	---	---

CONDENSING UNIT DATA

Case Size	Volts	Phase	RLA (amps)	LRA (amps)	Refrigerant	Refrigerant Charge (lbs)
3' x 3'	120	1	4	23	R290	0.33
4' x 4'	120	1	10	44	R290	0.24
4' x 8'	120	1	20	88	R290	0.24

NOTES:

- "—" indicates that the feature is not an option on this case model and/or the data is not yet available.
- Notes added are specific to case as pertains to data.
- " * " Indicates the MIDA 8 is supplied with 2 electrical plugs and may be connected to separate circuits with a 15A breaker, or a common circuit with a 25A breaker.
- Discharge air temperature values represent readings taken within the upper air channel immediately behind/upstream of the honeycomb.



ENGINEERED FOR STORES WITH AMBIENT CONDITIONS NOT TO EXCEED 75° AND 55% RELATIVE HUMIDITY. DUE TO ENGINEERING IMPROVEMENTS SPECIFICATIONS MAY CHANGE WITHOUT NOTICE. ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS. NUMBERS ARE BASED ON STANDARD CASE SIZES. CONSULT ENGINEERING.

Rev. Date	Rev. #	Rev. Title
10-28-22	4	DATA UPDATE
04-21-22	3	NOTES UPDATE

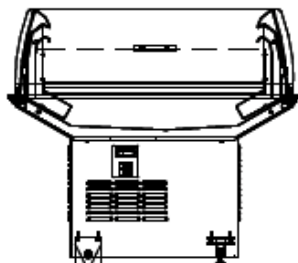
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DEFROST CONTROLS							
Case Application	Case Size	Defrosts per Day	Frequency dl (hr)	Run Off Time (Min)	Drip Time dd (min)	Timed Off Defrost (Min)	Timed Off Defrost Termination Temp (°F)
Dairy	3' x 3'	---	8	---	0	55	47
Deli	3' x 3'	3	8	0	0	55	47
Dairy	4' x 4' (Serial # "C")	---	6	---	0	32	68
Dairy	4' x 4' (Serial # "D")	4	6	2	0	60	40
Deli	4' x 4' (Serial # "C")	---	6	---	0	32	68
Deli	4' x 4' (Serial # "D")	4	6	2	0	60	40
Fresh Meat	4' x 4' (Serial # "C")	4	6	0	0	32	68
Fresh Meat	4' x 4' (Serial # "D")	4	6	2	0	60	40
Dairy	4' x 8' (Serial # "C")	---	6	---	0	32	68
Dairy	4' x 8' (Serial # "D")	6	4	2	0	60	47
Deli	4' x 8' (Serial # "C")	---	6	---	0	32	68
Deli	4' x 8' (Serial # "D")	6	4	2	0	60	47
Fresh Meat	4' x 8' (Serial # "C")	4	6	0	0	32	68
Fresh Meat	4' x 8' (Serial # "D")	6	4	2	0	60	47

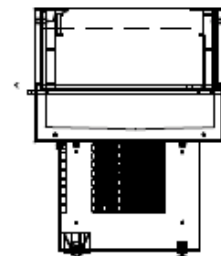
CASE DIMENSIONS

MIDA

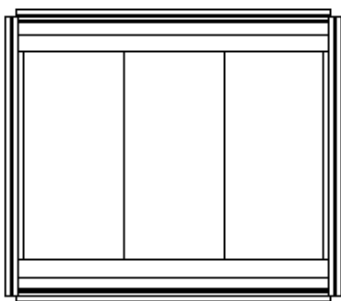
Mobile Single-Deck Self-Contained Merchandiser
(3'X3'), (4'X4') & (4'X8')



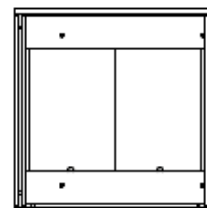
(4'x4') & (4'x8') SECTION



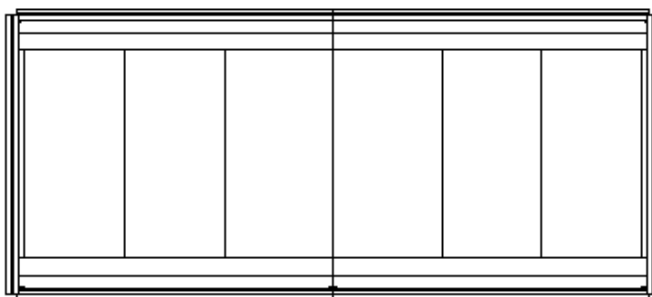
(3'x3') SECTION



(4'x4') TOP VIEW



(3'x3') TOP VIEW



(4'x8') TOP VIEW



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Rev. Date	Rev. #	Rev. Title
10-28-22	4	DATA UPDATE
04-21-22	3	NOTES UPDATE

Hillphoenix
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Thank you for choosing Hillphoenix for your food merchandising needs. This handbook contains important technical information and will assist you with the installation and operation of your new Hillphoenix display cases. By closely following the instructions, you can expect peak performance; attractive fit and finish; and long case life.

We are always interested in your suggestions for improvements (e.g. case design, technical documents, etc.). Please feel free to contact our Marketing Services group at the toll-free number listed below. Thank you for choosing Hillphoenix, and we wish you the very best in outstanding food merchandising.

CASE DESCRIPTION

This manual specifically covers the MIDA-4' & 8' meat, deli, dairy, cheese, produce, bakery and meal kits applications and the MIDA-3' for deli, dairy, cheese, produce and bakery applications. This is a self-service open single-deck merchandise refrigerated display case with R-290 refrigerant.

STORE CONDITIONS

Hillphoenix cases are designed to operate in an air-conditioned store that maintains a 75 °F (24 °C) store temperature and 55% (max) relative humidity (CRMA conditions). Case operation will be adversely affected by exposure to excessively high ambient temperatures and/or humidity.

REFRIGERATION SYSTEM OPERATION

Air-cooled condensing units require adequate ventilation for efficient performance.

THIS UNIT CONTAINS R-290 FLAMMABLE REFRIGERANT. USE CAUTION WHEN HANDLING, MOVING OR SERVICING THE DISPLAY CASE. AVOID DAMAGING THE REFRIGERANT TUBING WHICH COULD INCREASE THE RISK OF A LEAK.

SHIPPING CASES

Transportation companies assume all liability from the time a shipment is received by them until the time it is delivered to the consumer. Our liability ceases at the time of shipment.

RECEIVING CASES

Examine fixtures carefully and in the event of shipping damage and/or shortages, please contact the Service Parts Department at the number listed below.

CASE DAMAGE

Claims for obvious damage must be 1) noted on either the

Hillphoenix
1925 Ruffin Mill Rd.
Colonial Heights, VA 23834
Mon.-Fri. (8 a.m to 5 p.m EST)
Tel: 1-800-283-1109
Web site: www.hillphoenix.com

freight bill or the express receipt and 2) signed by the carrier's agent; otherwise, the carrier may refuse the claim. If damage becomes apparent after the equipment is unpacked, retain all packing materials and submit a written request to the carrier for inspection within 14 days of receipt of the equipment. Failure to follow this procedure will result in refusal by the carrier to honor any claims with a consequent loss to the consumer.

If a UPS shipment has been damaged, retain the damaged material, the carton and notify us at once. We will file a claim.

LOST/MISSING ITEMS

Equipment has been carefully inspected to insure the highest level of quality. Any claim for lost/missing items must be made to Hillphoenix within 48 hours of receipt of the equipment. When making a claim please use the number listed below.

SERVICE & TECHNICAL SUPPORT

For service or technical questions regarding this case, please contact our Service Department at 1-800-283-1109. For questions regarding our refrigeration systems or electrical distribution centers, please contact our Systems Division Customer Service Department at 1-770-388-0706.

CONTACTING THE FACTORY

If you need to contact Hillphoenix regarding a specific fixture, be certain that you have both the case model number and serial number (this information can be found on the data tag, located on the top-left interior of the case). When you have this information, refer to pages 20 and 24 of this manual or contact 833-280-5714.

ID PLATE

The display case has an ID plate as illustrated below:

LISTED COMMERCIAL REFRIGERATOR AND/OR FREEZERS		DO NOT DESTROY	
ETL LISTED ETL-1111 California, U.S.A. 900 1000 900 1000		MODEL: MIDA-1 REFRIGERANT: R290 VOLTAGE: 115V	DATE CODE: C 20 FREQUENCY: 60 HZ DESIGN PRESSURE LOW SIDE: 250 psig DESIGN PRESSURE HIGH SIDE: 250 psig
SERIAL: 1111 T/A: 1.5		HILLPHOENIX 1925 Ruffin Mill Rd., Colonial Heights, VA 23834	

CASE INSTALLATION

LOCATION

This refrigerated display case has been designed for displaying and storing perishable food product. It is engineered for air-conditioned stores with a maximum ambient of 75°F and 55% relative humidity.

When selecting the location for placement of this case, avoid the following conditions:

Excessive Air Movement

1. Doors
2. Air-conditioned vents
3. Other air sources

Excessive Heat

4. Windows
5. Sun
6. Flood lamps 8 feet or less from the product
7. Other heat sources

TRANSPORT AND HANDLING

The display case is shipped wrapped in plastic sheeting and secured to a pallet or in a wooden crate (OPTIONAL). To avoid damage during the various stages of shipping and handling it is good practice to keep the display case fully packaged until it is positioned for final installation.

Handling should be carried out with the aid of a fork-lift truck or appropriate equipment that can lift the display case at the load point indicated by the relevant label on the packaging (see fig. 1).



Fig. 1



NOTE

Remove the plastic packaging and all plastic wrap off the panels of the case including the deck pans. Pay careful attention to the accessories packaged together in the shipped loose parts inside the display case bearing in mind that electrical equipment and drainage points are located on the bottom of the display case.

STORE CONDITIONS

The temperature where the display case is stored must not exceed 131°F. The display case must be shielded from sunlight and weather. Leave the display case inside its original packaging, which will provide it with excellent protection up to the moment of installation.

POSITIONING AND INSTALLATION

Removing the plastic packaging

Removing the shipping pallet

Remove the display case from the shipping pallet as follows:

1. Remove the panels to gain access to the fixing brackets (Fig. 2).
2. Undo all the screws (a) that fix the bracket (b) to the pallet and the legs of the display case itself.
3. Lift the display case and remove the pallet (c).



WARNING

Be certain that your hands and feet are out of the way before lowering the case. Failure to do so may result in serious injury.

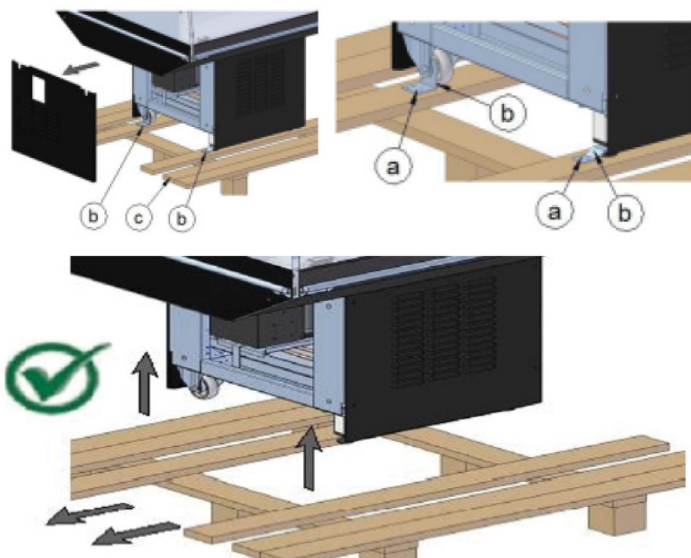


Fig. 2



DANGER

Electrical equipment and water drainage points are located underneath the display case. Do not use front panels and uprights as lift points!

Positioning the Cabinet

Respect the conditions shown in the figures below and the indications in "TECHNICAL DATA".

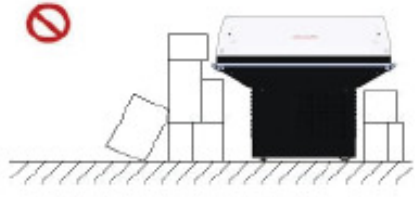
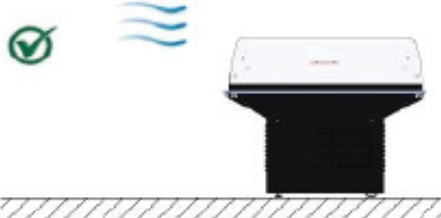
	
	
	
	
	
	

Fig. 3

CASE INSTALLATION

DANGER

Electrical equipment and water drainage points are located underneath the display case. Do not use front panels and uprights as lift points!

Horizontal Positioning and Adjustment

Position the display case horizontally using a spirit level, placing it, for example, in the lower areas illustrated in Fig. 4. Adjust using the adjustable feet supplied with the cabinet.

The height of the cabinet above the ground can be adjusted as shown in Fig. 4 below.

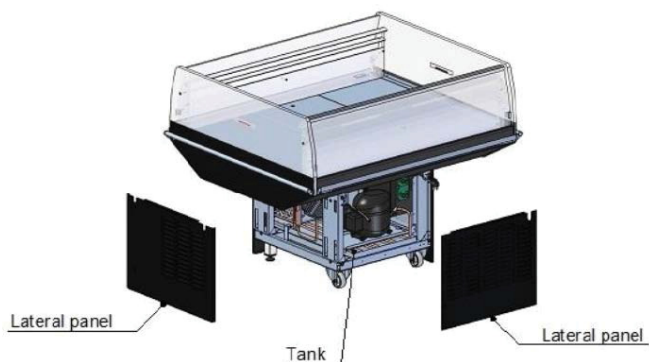


Fig. 4

NOTE

Failure to properly level the case could result in lack of proper condensation drainage leading to failure of the unit.

COMPRESSOR COMPARTMENT DIAGRAM



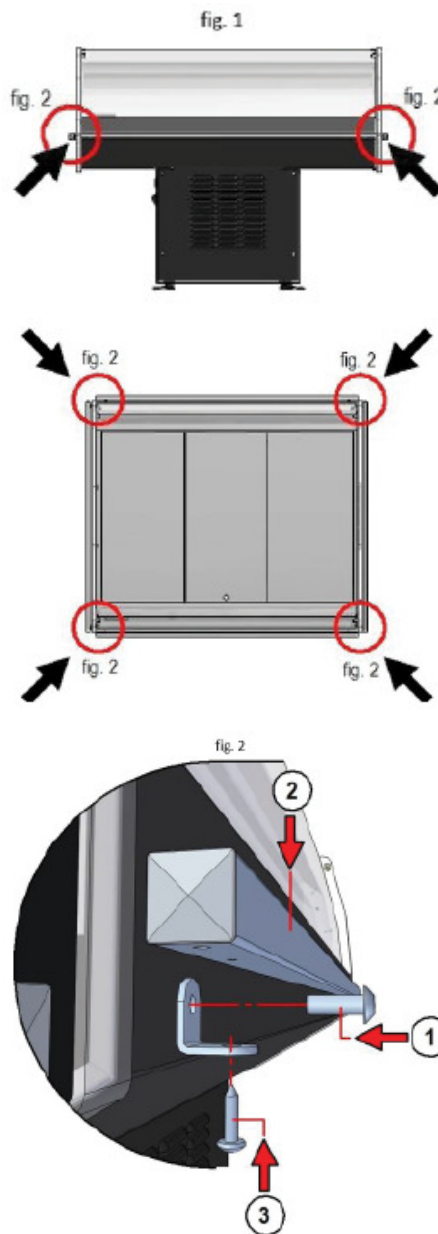
NOTE

Do not obstruct ventilation around the base of the display case condensing unit. Obstructing could cause the case to not operate correctly and failure to maintain product temperatures.

NOTE

Remove all plastic wrap from all items in the case including the deck pans before operating.

Bumper Installation:



ELECTRICAL

Electrical hookups are made through the electrical raceway that can be accessed by removing the front lower panels of the display case.

When connecting to the power supply on the case, field wiring should exit box from the side furthest away from case wiring to allow more room inside for wiring connections. The case must be grounded. For more detailed electrical wiring information (see Appendix A1).

Prior to plugging in and starting up the case always check the data tag located on the left end exterior lower panel. This case utilizes a NEMA L5-15 Twist Lock Plug that comes wired to the display case (Fig. 6) which can be found at the rear base panel.

Note: Check that the voltage of the receptacle you are going to use for power and the voltage required for the case match.



Fig. 6 Main power cord plug type

! DANGER

Prior to plugging in and starting up the case. Be certain that the voltage of the receptacle you are going to use and the voltage required for the case match. Failure to do so may result in case/system damage.

! DANGER

Be certain that all electrical connections are compliant with local codes.

! DANGER

CAUTION, RISK OF ELECTRIC SHOCK. If the cord or plug becomes damaged, replace only with a cord and plug of the same type.

The display case must be connected to a main power source that complies with electrical safety standards and is equipped with a high-sensitivity magneto-thermal cut-out.

Before plugging the display case in to the main power check the following:

- The power to the display case will be connected to has a ground connection in compliance with current safety standards and the display case is properly grounded.
- The voltage corresponds to the data tag as indicated on the various electrical components and power supply.
- There are no excessive power voltage drops (as verified at the case power supply terminals) or wires of unsuitable cross-section or in any case non-compliant with standards in force: these could cause malfunctions and/or create serious damage to the case electrical components and also render the warranty null and void.
- The refrigerated display case power supply is independent of other power supplies and can be disconnected separately.
- Before inserting the plug in the main power source, check that the switch is OFF. Insert the plug and then switch ON. The value of the line protection fuse or magneto-thermal cut-out must correspond to that indicated in the test report.

REFRIGERATION & COMPRESSOR COMPARTMENT

The bottom mounted compressor compartment can be accessed by removing the front, rear or side panels.

Power Supply

1. Ensure the case power switch is in the off position.
2. Plug the main power cord (Fig. 6) located at the rear base panel of the case into the power source.
3. Turn the power switch to the ON position (Fig. 7). The case should begin normal operations.

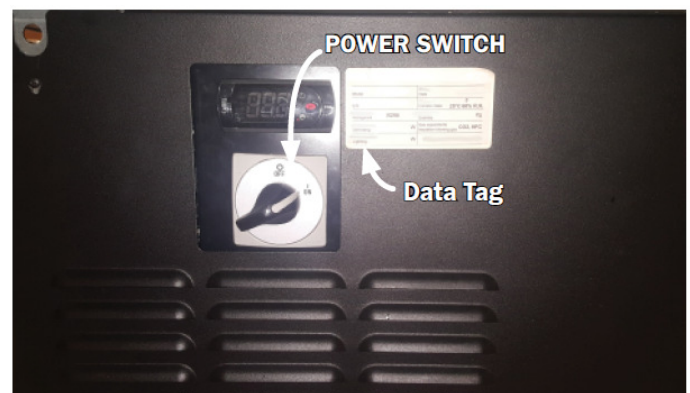


Fig. 7 Lower panel switch locations

CASE CONNECTIONS

COMPRESSOR COMPARTMENT DIAGRAM

- A** Condenser Fan
- B** Compressor
- C** Fan Control Board
- D** Electrical Junction Box
- E** Drain
- F** Dissipater Pan
- G** Suction Line
- H** Discharge Line

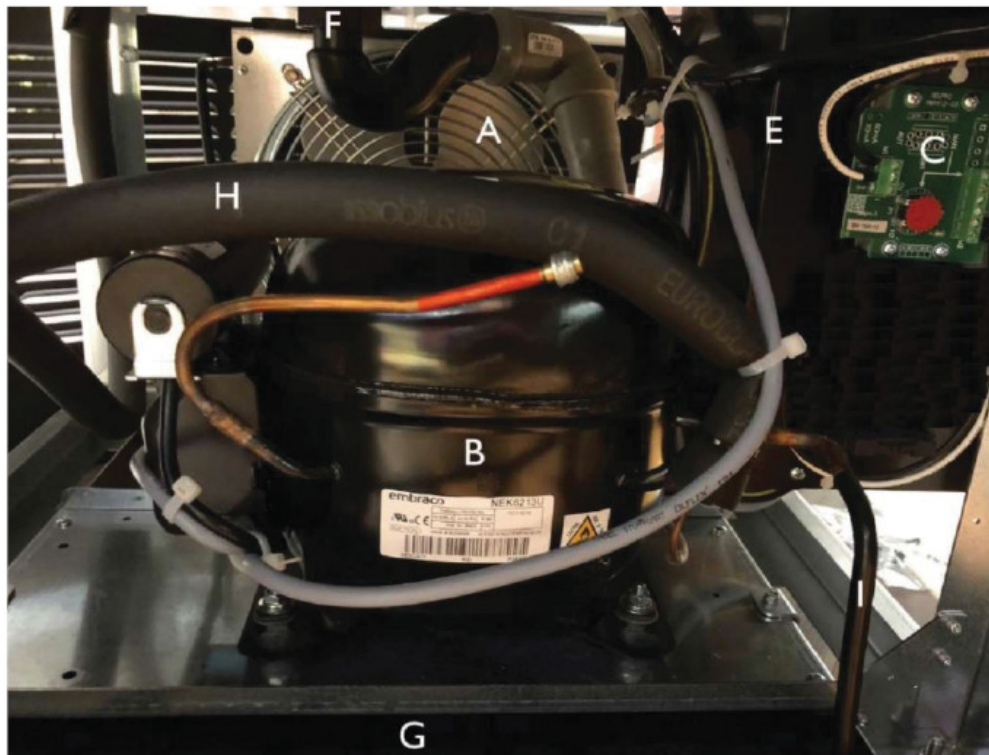


Fig. 8

Note: Access locations and/or compartment configuration will vary based on case design.

CONTROLS ON THE CONDENSING UNIT

The control panel is in the lower section of the cabinet. See Appendix for full instructions on how to program the Carel electronic controller.

Picture	Function	Operates On	Adjusts
	switch on/off	Power supply to control panel thermostat	//
	switch on/off	Condensing unit motor	//
	Adjustment	//	Case Temperature Defrost cycle

DANGER

ALWAYS CHECK THE THERMOSTAT CURRENT RATING because it may have a limited current, as low as 2A. If necessary protect digital thermostat contacts with a contactor.

DANGER

When carrying out maintenance tasks inside the refrigerated case or compressor compartment, it is essential to disconnect the power source to the case from the main power.

NOTE

See Appendix for full instructions on how to program the Carel electronic controller.

SAFETY LABELS

Inspect the refrigerated display case and ensure all safety warnings/information applied on the refrigerated case are not removed. Any labels removed must be replaced. The following signs are applied:

Warning #.	Description of Warning	Symbol/Information	Application
1.	ID Plate		Close to Field Wiring Box
2.	Danger: connect to an electrical system with a magneto-thermal cut-out		On Field Wiring Box
3.	Danger: connect to an electrical system with a magneto-thermal cut-out		On electrical panel. Power lead
4.	Danger: Do not lift. Disconnect electrical power first; do not use water jets directly; moving parts; disconnect electrical power.		On all fan holders
5.	Ground connection point.		On the electrical switch box.
6.	Type label	ANSI/NSF-7 Type 1 Display Refrigerator intended for 75 °F/55%RH	Close to Field Wiring Box
7.	Intended use label	This equipment is intended for the storage of packaged products only	Close to Field Wiring Box
8.	Load limit		On side glass/fixd and/or mobile
9.	Danger: Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost refrigerator. Do not puncture refrigerant tubing.		Flammable locations

Fig. 10

PRE-POWER CHECKLIST

Before powering-up the case, be certain that all of the steps listed below have been completed to ensure proper case functionality, safety and compliance with warranty terms.

- ☐ **Have you thoroughly examined the case for shipping damage? (see pg. 4)**
- ☐ **Have you checked to ensure the case is horizontally level? (see pg. 5-7)**
- ☐ **Have you checked all exposed refrigeration lines to ensure that they are not kinked, dented or rubbing together and have installed the compressor compartment access panel? (see pg. 8)**
- ☐ **Have you checked and verified the voltage of the receptacle you are going to use for power and the voltage required for the case match? (see pg. 8)**
- ☐ **Have you verified the display case switch is in the OFF position prior to plugging in to the main power source? (see pg. 8)**
- ☐ **Have you reviewed safety warning labels and verified all are present and in good condition? (see pg. 10)**

After powering-up the case, be certain that all of the steps listed below have been completed to ensure proper case functionality, safety and compliance with warranty terms.

- ☐ **Check case temperature and adjust controller as needed. All display case connections comply with the information/instructions? (see pg. 9)**
- ☐ **Store the installation manual in the vicinity of the display case itself to where it can be accessed and consulted by all members of staff involved in the use of the refrigerator display case.**
- ☐ **Before placing food in the display case, allow the case to operate for approximately two (2) hours and ensure the case is at the proper temp before loading.**

AIRFLOW & PRODUCT LOAD

Hillphoenix cases provide maximum product capacity within the refrigerated air envelope. Please keep products within the appropriate load limit.

It is important that you do not overload the food product display so that it impinges on the airflow pattern (Fig. 11). Overloading will cause malfunction and the loss of proper temperature levels.

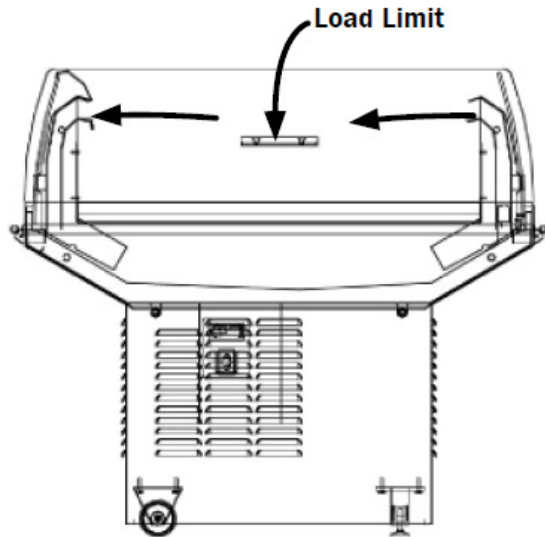


Fig. 11

The refrigerated case is marked with a line to indicate the load limit (see Fig. 12).

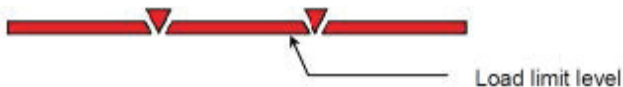


Fig. 12

Adequate refrigeration is only guaranteed for products that is displayed below this line. Arranging the goods in a uniform manner ensures the best possible working efficiency of the display case.

It is good practice to carry out rotation of stock when refilling the cabinet with new products. Older products must be sold first. Products must not obstruct air vents.

NOTE

Proceed to the loading only once the display case has reached the proper temperature setting.

FORBIDDEN

DO NOT OVERLOAD THE CASE: this is the most common error and can cause secondary faults and malfunctions (e.g. blocking the evaporator by obstructing cold air outflow). Note also that products lying above the load limit line will not be properly refrigerated and this will inevitably cause their rapid deterioration.

FORBIDDEN

1. Do not load products above the load limit line.
2. Do not tamper with safety devices. Any tampering shall render the warranty null and void and shall exonerate Hillphoenix from any liability with regard to users of the refrigerated display case.
3. Do not stand on any part of the refrigerated display case.
4. Do not enter any condensing unit compartment of the refrigerated case unless an authorized service technician.
5. Do not use water jets directly to clean the cabinet.
6. Do not remove the electrical panel front cover.
7. Do not attempt to remove build-ups of ice with sharp objects.
8. Do not clean with acid products or products with a strong degreaser or corrosive action; do not use abrasive sponges.

Defrosting

The defrost cycle is very important in that it ensures correct operation of the cabinet. It is activated and controlled by the thermostat which temporarily stops the condensing unit, allowing the evaporator to shed the build-up of ice. Fan speeds during defrost and refrigeration are independently adjustable using the Rheostat boards shown in Figure 7 on Page 9 (Items C & D). The default settings utilize a higher fan speed during defrost to minimize off time and ensure a clear coil. For factory settings see page 2 of this manual 'TECHNICAL DATA'.

DANGER

Flammable

DANGER – Risk Of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



CASE CLEANING

CASE CLEANING

A periodic cleaning schedule should be established to maintain proper sanitation, insure maximum operating efficiency, and avoid the corrosive action of food fluids on metal parts that are left on for long periods of time. Further suggestions for case cleaning include the following:

- Remove all food from the refrigerated display case prior to cleaning.
- To avoid shock hazard, be sure all electrical power is turned off before cleaning. In some installations, more than one disconnect switch may have to be turned off to completely de-energize the case.
- Remove the interior deck pans and any removable internal panels as shown in Fig. 13 for cleaning.
- The bottom of the inside tank and the area underneath the evaporator should also be cleaned with the same frequency where the display case is exposed to fluid spillage or liquid drainage from merchandised products.
- All surfaces pitch downward to a deep-drawn drain trough, funneling liquids to the center of the case where the waste outlet is located for easy access. Check the waste outlet to ensure it is not clogged before starting the cleaning process and avoid introducing water faster than the case drain can carry it away. It is recommended that this case be wiped down rather than hosed to avoid overflowing the condensate pan.
- Clean from top to bottom when cleaning the display case to avoid cross contamination.
- Avoid spraying any cleaning liquids directly on the electrical connections.
- Allow cases to be turned off long enough to clean any frost or ice from coil and pans.

DANGER

SHOCK HAZARD

Always disconnect power to case when servicing or cleaning. Failure to do so may result in serious injury or death.

NOTE

Proceed to the loading only once the display case has reached the proper temperature setting.

FORBIDDEN

Do not use alcohol, solvents or derivatives for cleaning surfaces on plexiglass. It's use makes it fragile at the treated surface and causes the formation of cracks and thus inevitably the break.



Fig. 13



NOTE

All washed parts must be rinsed and air dried prior to the case being reconnected to the power source.

Fans and Fan Plenum

1. Disconnect power to the case and wait for fans to come to a complete stand-still.
2. To access the underside of the fans, the coil or the tank (Fig. 14). Lift the fan plenum and clean as necessary. Use a spray bottle filled with an approved, mild detergent and warm water.
3. Be sure to move the fan plenum back to its original position after cleaning and/or inspection is complete.



Fig. 14 Fan and Fan Plenum

⚠ DANGER

When carrying out cleaning work or maintenance on the condensate collection tank it is essential to disconnect the machine and all its accessories from the mains power!

WARNING!!! DANGER OF BURNS

Be careful of the elements inside the condensate evaporation tank: they operate at high temperature!!

👉 NOTE

Maintenance workers are advised to use gloves to protect themselves against cuts and abrasion in that, while all the corners of the sheet metal have been folded back, there may still be some sharp edges. Do not wear accessories (necklaces, bracelets etc.) or loose, flapping or hanging clothing as it could get caught up in the structure.



Fig. 15 Removing condensating unit panels

CHECKING AND CLEANING THE CONDENSATE COLLECTION TANK

Inspect the condensate collection tank at least once every 6 months. Remove the lateral panels and clean the tank (see Fig. 15). Ensure you disconnect the electrical power supply and make sure you DO NOT touch the elements as they reach high temperatures (necessary for evaporation inside the tank).

Cleaning the condenser of the condensing unit

The condensers used on the condensing units gather dust and dirt and must be cleaned regularly. Under normal working conditions this task must be executed at least once a month using a soft-bristled brush and a vacuum cleaner. A dirty condenser will reduce the display case performance: it will also result in increased energy consumption. (See Fig. 17)

⚠ CAUTION

Be sure to clean the condenser air intake filter monthly. Failure to do so may result in loss of normal compressor functions and case damage.

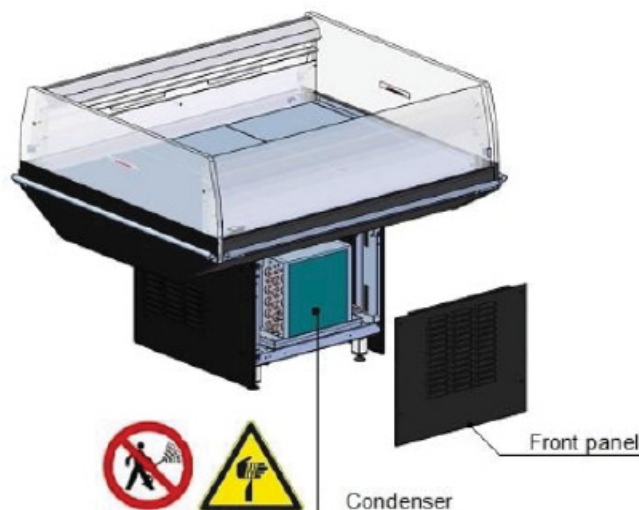


Fig. 16 Cleaning the condensing unit

UNSCHEDULED CASE MAINTENANCE

Unscheduled maintenance concerns all those tasks that cannot normally be carried out by the routine user as specified on pages 13-14. Such tasks require qualified personnel with specific technical skills (e.g. refrigeration system specialists, electricians etc.) and must be carried out at least once a year. See the scheduled maintenance table for a list of the main tasks. (Fig. 16).

If inspection reveals any rust, cracks and etc...it will be necessary to carry out repairs and/or replacement of parts so that the case meets code and the display case is in prime operating condition. To enhance safety, it is recommended that you always seek the advice of a specialized technician before carrying out any repair work.

PARTS SUBJECT TO WEAR AND SPARE PARTS

Most spare parts carry clear, complete ID information. It is important that the refrigerated case parts be replaced by analogous parts of equivalent safety and quality: to order spare parts please contact Hillphoenix, stating the case model and serial number, found in this manual or on the case ID plate, and provide a description of the component and the desired quantity. Refer to the Parts section in the back of the manual for parts ordering and to identify parts that may need to be replaced.

⚠ CAUTION

Do not pressure wash equipment as damage to electrical components may result.

CASE CLEANING

SCHEDULED MAINTENANCE TABLE

Maintenance	Weekly	Monthly	Half Yearly	Yearly
Cleaning Case	✓			
Cleaning Gas Condensing Unit		✓		
Case Visual Check	✓			
Safety Labels Visual Check	✓			
Check Electric System				✓
Check Water Drainage System			✓	
Check Refrigeration System				✓
General Inspection				✓

Fig. 17 Recommended Cleaning Schedule

INSTRUCTIONS FOR PERSONNEL

In the event of General Emergency

Immediately inform those in the vicinity of the perceived danger, gesticulating if necessary; cut the electrical power to the cabinet.

In the event of Fire

In the event that the refrigerated case catches fire or is involved in a fire it is possible to use an extinguisher with a powder-type or CO2 extinguishing agent.

Resetting the Case

To restore normal operation it is necessary to eliminate all the causes of the emergency situation; if necessary repair or replace damaged parts.

NOTE

If safety devices are tripped it will be necessary to identify the cause before continuing work.

CAUTION

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

CAUTION

R-290 flammable refrigerant in use. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation operating and maintenance instructions thoroughly before installing or servicing this equipment.

DANGER

Flammable

DANGER – Risk Of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



FAILURES AND TROUBLESHOOTING

Failures

In the event of a failure of mechanical/electrical/refrigeration parts the initial safety conditions must be restored immediately by replacing or repairing such faulty parts.

Table of Failures and Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
The condenser fan motor not operating.	1) the parameters On controller incorrectly adjusted to higher temperature set point.	1) readjust set point on controller to the Correct setting, per guidelines on the next page.
The refrigerated cabinet does not work.	1) the mains circuit breaker is set to OFF; 2) the power line between refrigerated cabinet and power socket is faulty; 3) the switch on the refrigerated cabinet control panel is not switched on.	1) turn the mains power on; 2) make sure the plug is inserted properly in the socket; 3) turn the power switch on the refrigerated cabinet panel to ON.
The refrigerated cabinet does not cool enough.	1) the temperature thermostat is adjusted incorrectly; 2) the refrigerated cabinet has been filled too much 3) the condensing unit is clogged with dust 4) the evaporator is covered in ice	1) reprogram the temperature thermostat; 2) remove goods and observe the maximum load level; 3) clean condensing unit with a soft-bristled brush and vacuum cleaner 4) carry out a defrost cycle.
The refrigerated cabinet cools too much.	1) the temperature thermostat is adjusted incorrectly.	1) reprogram the temperature thermostat;
The refrigerated cabinet runs continuously.	1) the temperature thermostat is adjusted incorrectly; 2) the refrigerated cabinet has been filled too much and is preventing correct air circulation.	1) reprogram the temperature thermostat; 2) remove goods and observe the maximum load level.
The Refrigerated is in lockdown. On display you can read "cHt". More sound alarm	The condensing unit is dirty. The safety probe (pos 4) passed the limit temperature	1) turn the mains power off 2) clean the condensing unit.



PLEASE READ INSTRUCTIONS BEFORE CHANGING SET POINTS

- UNIT IS SET TO FRESH MEAT TEMPERATURE
- THERMOSTAT CORRECTLY READS 6°F IF USING AT THIS APPLICATION
- SCAN QR CODE FOR INSTRUCTIONS ON SETTING PARAMETERS FOR NON-MEAT APPLICATIONS
- CHANGING SET POINTS OUTSIDE GUIDELINES WILL IMPACT UNIT OPERATION

TROUBLESHOOTING

MIDAR-290 Self-Contained Case – Set Point Summary Details

Set points for various product applications are listed below:

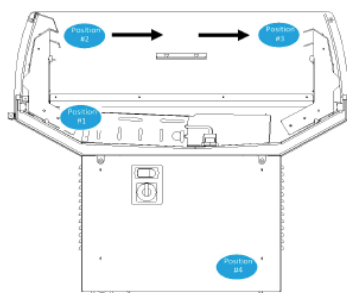
GUIDELINES AND CONTROL SETTINGS						
Case Size	Case Application	24hr Energy Usage (kWh)	Set Point St (°F)	Hysteresis rd (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
3' x 3'	Dairy	---	29	9	---	---
3' x 3'	Deli	2.84	26	9.5	21	120
4' x 4' (Serial # "C")	Dairy	---	11	14	---	---
4' x 4' (Serial # "D")	Dairy	---	17	18	---	---
4' x 4' (Serial # "C")	Deli	---	10	14	---	---
4' x 4' (Serial # "D")	Deli	---	17	16	---	---
4' x 4' (Serial # "C")	Fresh Meat	14.61	6	2	7	120
4' x 4' (Serial # "D")	Fresh Meat	---	8	4	---	---
4' x 8' (Serial # "C")	Dairy	---	13	14	---	---
4' x 8' (Serial # "D")	Dairy	---	20	5.5	---	---
4' x 8' (Serial # "C")	Deli	---	11	14	---	---
4' x 8' (Serial # "D")	Deli	---	18.5	5.5	---	---
4' x 8' (Serial # "C")	Fresh Meat	28.54	6	2	7	120
4' x 8' (Serial # "D")	Fresh Meat	---	16	3.5	---	---

DEFROST CONTROLS							
Case Application	Case Size	Defrosts per Day	Frequency dl (hr)	Run Off Time (Min)	Drip Time dd (min)	Timed Off Defrost (Min)	Timed Off Defrost Termination Temp (°F)
Dairy	3' x 3'	---	8	---	0	55	47
Deli	3' x 3'	3	8	0	0	55	47
Dairy	4' x 4' (Serial # "C")	---	6	---	0	32	68
Dairy	4' x 4' (Serial # "D")	4	6	2	0	60	40
Deli	4' x 4' (Serial # "C")	---	6	---	0	32	68
Deli	4' x 4' (Serial # "D")	4	6	2	0	60	40
Fresh Meat	4' x 4' (Serial # "C")	4	6	0	0	32	68
Fresh Meat	4' x 4' (Serial # "D")	4	6	2	0	60	40
Dairy	4' x 8' (Serial # "C")	---	6	---	0	32	68
Dairy	4' x 8' (Serial # "D")	6	4	2	0	60	47
Deli	4' x 8' (Serial # "C")	---	6	---	0	32	68
Deli	4' x 8' (Serial # "D")	6	4	2	0	60	47
Fresh Meat	4' x 8' (Serial # "C")	4	6	0	0	32	68
Fresh Meat	4' x 8' (Serial # "D")	6	4	2	0	60	47

Set Point Comments:

- For the MIDA4 and MIDA8, the controllers are set to Fresh Meat temperatures by default.
- The MIDA4 and MIDA8 are designed to hold exceptionally low product temperatures, and are supplied at those settings by default. If warmer product temperatures are desired, the user must change both the setpoint (parameter "St"), and the differential (parameter "rd").
- The differential parameter must be changed for the compressor to remain below its maximum allowable cycle rate of 6 starts per hour.
- The set points listed for the MIDA4 and MIDA8 in the table above may seem lower than what is common for a typical medium temperature self-contained case. This difference is due to the following reasons:
 - Probe Location: Due to the transparent nature of the rear glass on this case, the temperature control probe is not located near the discharge air baffles (Position #2 in cross section below) as is common for display cases with solid rear walls. On this case the probe is located directly off the back of the evaporator coil (Position #1). The temperature reading on the controller represents the air temperature off the back of the coil.
 - Anti-Condensate Heat: Anti-condensate heat is used on the rear glass in order to keep the glass free of condensation providing shoppers with a clear, unobstructed view of the product. This heat has an impact on the discharge air temperature, so the coil must run colder than would be typical of a case without this additional heat.

As stated, the air temperature at the rear discharge baffle (Position #2) is greater than the air temperature at the back of the coil (Position #1). A correlation between these temperatures and the air temperature at the front return air baffle (Position #3) is provided in the table below.



Location	Deli	Dairy	Packaged Meat
Coil Discharge Air	11.5	10.6	21.4
Rear Baffle Discharge Air	18.5	17.6	28.4
Front Baffle Return Air	29.3	29.3	15.8

Step by Step Method to Modify the Case Set Point on MIDA8 case controller (Parameter “St”)

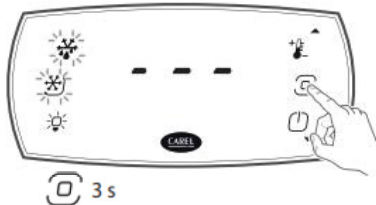
1. Press PRG to enter display active actuators/functions mode



2. Press PRG for 3 sec to access direct activation of loads and functions



3. Press PRG to enter programming mode, the first category of parameters “dir” will be displayed



4. Press UP/DOWN until reaching the parameter category Ctl (=control) and press PRG to display the first parameter “St” from the “Ctl” category



5. Press UP/DOWN to modify the setpoint value. Then press PRG to save the setting and return to the menu. Caution: if the PRG button is not pressed, the new setting will not be saved.



6. Press UP/DOWN to select ESC and press PRG to return to the parameter categories;



7. Press DOWN to move to the next category and follow steps 4 to 6 to set the other parameters.

8. Once the settings have been made, to exit the categories select ESC and press PRG.



9. To access more advanced parameters, after step 3., press UP/DOWN to navigate to the category “PSD” and Press PRG



10. Insert the service password “22” by pressing UP/DOWN and confirm with PRG. Now more advanced parameters can be set.

Parameter categories visible on the user terminal

The menu items available and parameters visible on the user terminal are listed below. The menu branches/parameters protected by the Service password (default 22) are shown in bold italics.

dir (*) (Direct functions)	CtL (Control)	Pro (Display probes)	dEF (Defrost)	HcP (HACCP)	CnF (Configuration)	ALM (Alarms)	PSD	ESC
See the following table	St	/5	dl	HAn	Hb	AH/AHA		
	rd	/6	dP1	HFn	H0	AL/ALA		
	Sth	/t1	dt1	rHP	H10	Ad		
	rdh	ESC	dP2	ESC	H11	Add		
	HU		dt2		ESC	rSA		
	rM		d6			rAL		
	rt (**)		d8			ESC		
	IS (***)		ESC					
	rSC							
	ESC							

TROUBLESHOOTING

Step by Step Moethod to Modify the Case Set Point (Parameter “St”)

1. Hold the SET button for 1 second, the set value will begin flashing.



2. Adjust the parameter to the desired value using the UP and DOWN arrows.



3. Press SET again to confirm the new value.



6. Adjust the parameter to the desired value using the UP and DOWN arrows



7. Press SET to temporarily save the new value.
8. Press the SET button for more than 3 seconds to permanently save the selected values and exit



Step by Step Method to Modify the Differential Setting (Parameter “rd”)

1. Hold the SET button for 3 seconds. If there are active alarms, first mute the buzzer by pressing the SET/MUTE button.



2. The display will show the parameter code “PS” (password)



3. Press the SET button to access the password setting and use the UP and DOWN buttons to enter the number “22” and press SET to confirm the password.
4. Use the UP and DOWN buttons to scroll the names of the parameters until reaching the parameter “rd”.



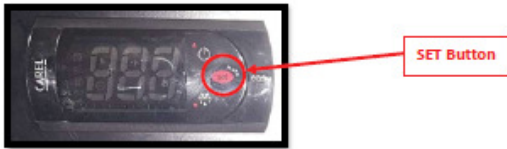
5. Press SET to display the value associated with this parameter.

Correcting Unit of Measure from Celsius to Fahrenheit

The controllers are programmed with the default temperature set points in Fahrenheit. If a controller is incorrectly set to Celsius units, all temperature parameters must be manually converted from Celsius to Fahrenheit. Please follow the below procedure to correct this issue:

1. Hold the SET button for 3 seconds. If there are active alarms, first mute the buzzer by pressing the SET/MUTE button.
2. The display will show the parameter code “PS” (password).
3. Press the SET button to access the password setting and use the UP and DOWN buttons to enter the number “22” and press SET to confirm the password.
4. Use the UP and DOWN buttons to scroll the names of the parameters until reaching the parameter “/5”.
5. Press SET to display the value associated with this parameter.
6. Adjust the parameter value from “0” (for Celsius) to “1” (for Fahrenheit) using the UP arrow.
7. Press SET to temporarily save the new value.
8. Use the UP and DOWN buttons to scroll the names of the parameters until reaching the parameter “/C1”.
9. Press SET to display the value associated with this parameter.
10. Adjust the value of the parameter using the Celsius to Fahrenheit conversion formula; $T(^{\circ}F) = (T(^{\circ}C) \times 9/5) + 32$
11. Repeat steps 8 - 10 for parameters /C2, /C3, St, rd, r1, r2, r3, r4, dt, dt, d/, AO, AL, AH, Ac, AE, & F1.

12. Press SET to temporarily save the new values.
13. Press the SET button for more than 3 seconds to permanently save the selected values and exit.



SAFETY DEVICES

FORBIDDEN

It is absolutely forbidden for the user to tamper with safety devices. Before using the refrigerated case check that mechanical safety covers are properly in place. Any tampering shall render the warranty null and void and exonerate Hillphoenix from any liability with regard to users of the refrigerated case.

Only maintenance personnel may carry out maintenance tasks involving safety devices. These tasks are listed below.

SAFETY DEVICE	SCOPE OF INTERVENTION	ACTION
Incorporated overpressure cut-out	On incorporated condenser unit compressor	Cuts the electrical power of the compressor if the pressure of the refrigerant rises above the safety limits.
Fixed cover on electrical control panel. Remove only with aid of tools	Electrical control panel	Prevents access to live parts. Electrical danger warning sign applied (see "DESCRIPTION OF DANGERS AND RISKS RESIDUAL")
Fixed safety gratings. Remove only with aid of tools	On evaporator fans.	Prevents access to fans when they are running or slowing down to a stop.

DESCRIPTION OF DANGERS AND RISKS RESIDUAL

Residual Dangers

Dangers that have not been reduced/eliminated with the safety measures adopted on the refrigerated case can nevertheless be reduced/eliminated as long as users apply proper managerial practices. Users must:

! Ensure that all safety warning and labels are always in good condition; inspect them periodically and have them replaced whenever necessary.

! Do not install any spare parts that are not identical to the originals or of equivalent performance.

! Do not carry out any modifications or structural work without approval from Hillphoenix or a qualified field service technician.

! Should the refrigerated case be dented, inspect the structure visually or have qualified personnel carry out an inspection.

After a long period of disuse have a qualified field service technician carry out an inspection of the case to check that it is in good condition and working properly.

Residual Risks

While the refrigerated case has been designed to ensure maximum safety, there nevertheless remain some residual risks. Hillphoenix has identified the main **dangers and residual risks for users and maintenance personnel** as follows in chart below:

DESCRIPTION OF RESIDUAL RISK	CAUSE	SAFETY MEASURES
Danger of falls in area surrounding the cabinet	Presence of: stairs, columns etc. and/or slippery floors and objects and/or work tools	Mark out the relevant zones and highlight them with warning signs and symbols (e.g. yellow/black striped marker tape on stairs etc.) that are visible during both routine use and maintenance.
Danger of objects accidentally falling	Haphazard storage of tools/objects.	Use tool boxes in work areas. Ensure personnel are trained.
Danger of injury to hands, arms, legs and head	During cleaning and maintenance there may be objects or parts of the cabinet protruding from the case itself (e.g. glass covers open during cleaning)	Mark out the work area with appropriate barriers. Always use the recommended personal safety devices.
Risk of refrigerating gas leaks	Accidental damage to pipes	Immediate shutdown of case operation. Disconnect electrical power supply. Contact a service technician.

REFRIGERANT

This piece of equipment uses a R-290 Refrigeration system. This equipment has been clearly marked on the serial tag the type of refrigerant that is being used. There is also a warning label stating that the unit contains R-290 refrigerant.

No smoking or open flames when servicing this equipment. If needed, use a CO2 or dry=power type fire extinguisher

Only authorized service technician, certified in R-290 system should service this equipment.

MANIFOLD SET

A R-134A manifold set can be used for servicing this equipment.

REFRIGERANT RECOVERY

Follow all national and local regulations for R-290 refrigerant recovery.

LEAKING CHECKING AND REPAIR

Leak check an R-290 system the same way you would an R-134a or R-404A system with the following exceptions.

1. Do not use a Halid leak detector on a R-290 system.
2. Electronic leak detector must be designated specifically for combustible gas.

Use of a bubble solution or an ultrasonic leak detector are acceptable.

When repairing a leak, it is recommended using oxygen free dry nitrogen with a trace gas not exceeding 200PSI.

When accessing an R-290 system, piercing valves are not to remain on the equipment in a permanent manner. After charge is recovered, Schrader valves are to be installed on the process stubs. Proper charge is to be weighed into the system and the system is to be leak checked afterwards.

The R-290 equipment must have red process tubes and other devices through which the refrigerant is serviced, such as any service port. This color marking must remain on the equipment. If marking is removed, it must be replaced and extend at least 2.5 centimeters (1") from the compressor.

! CAUTION

Component parts shall be replaced with like components. Service work shall be done by factory authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service.

CHARGING

Follow the charge amount specified on the data tag. It is recommended to use the shortest hoses possible to prevent undercharging.

- Ensure the system is sealed and leak checked
- Evacuate system to a minimum 500 micron
- Weigh in correct charge
- Leak check the system again
- Bleed the refrigerant from the high side hose to the low side hose
- Disconnect the hoses
- Remove line taps

! DANGER**Flammable**

DANGER – Risk Of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.

**! CAUTION**

It is highly recommended that a technician servicing a case with HC refrigerant is aware of safety considerations and maintenance procedures on how to safely handle flammable refrigerants.

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Hillphoenix[®]

A **DOVER** COMPANY[®]

Contact the Service Parts Department at:

Shop Online: www.partsonestore.com

Email: orderparts@doverfoodretail.com

Phone: 833-3PARTS1 (1-833-372-7871)

For MIDA parts: choose (Case)

Provide the following information about the part you are ordering:

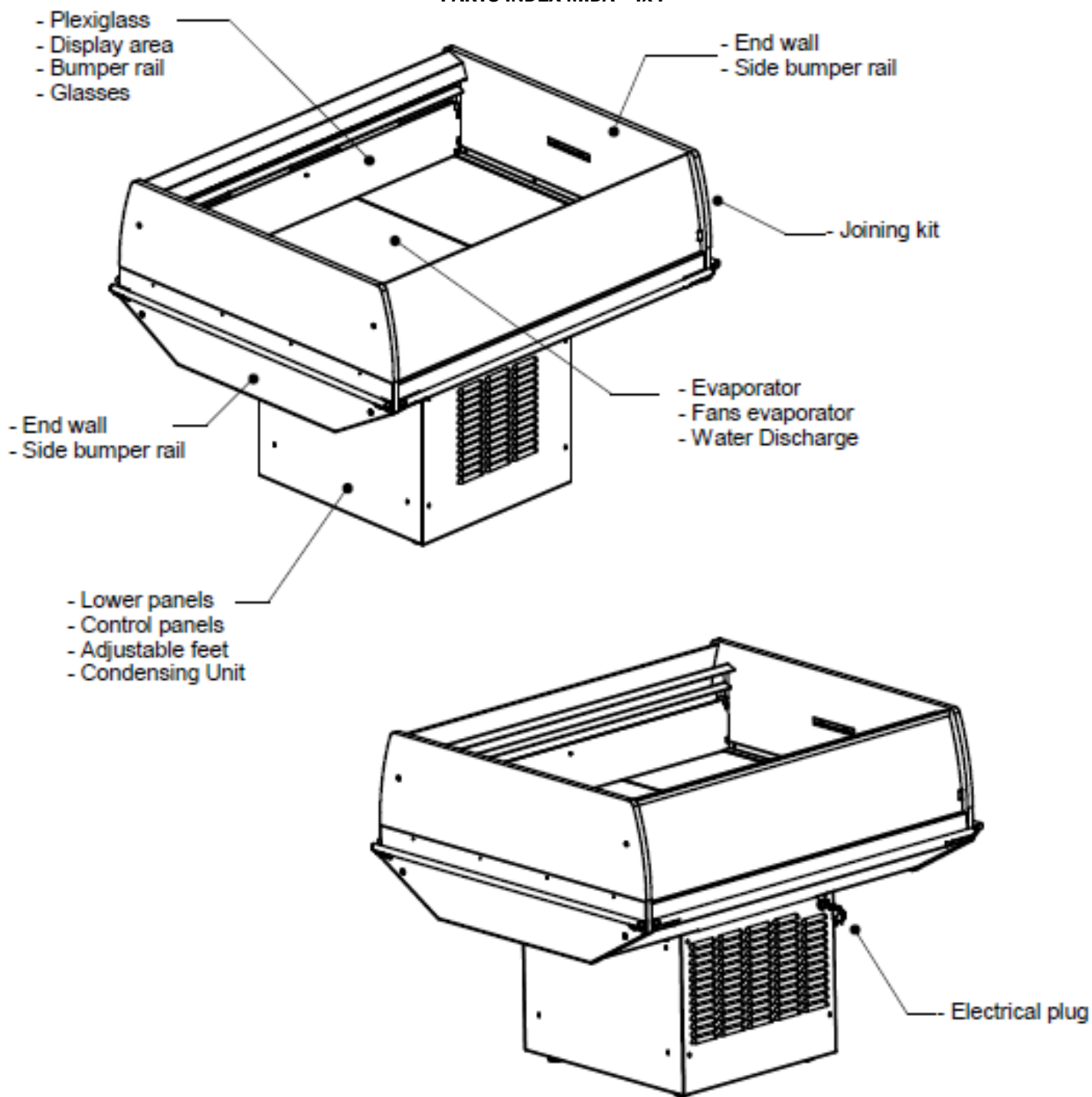
- **Model number and serial number*** of the case for which the part is intended.
- **Length of the part** (if applicable).
- **Color of part** (if painted) or color of polymer part.
- **Whether part is for left or right-hand application.**
- **Quantity**

***Data tag is located on the base of the display case.**

If the parts are to be returned for credit, contact the Parts Department. Do not send parts without authorization.

PARTS LIST

PARTS INDEX MIDA - 4x4



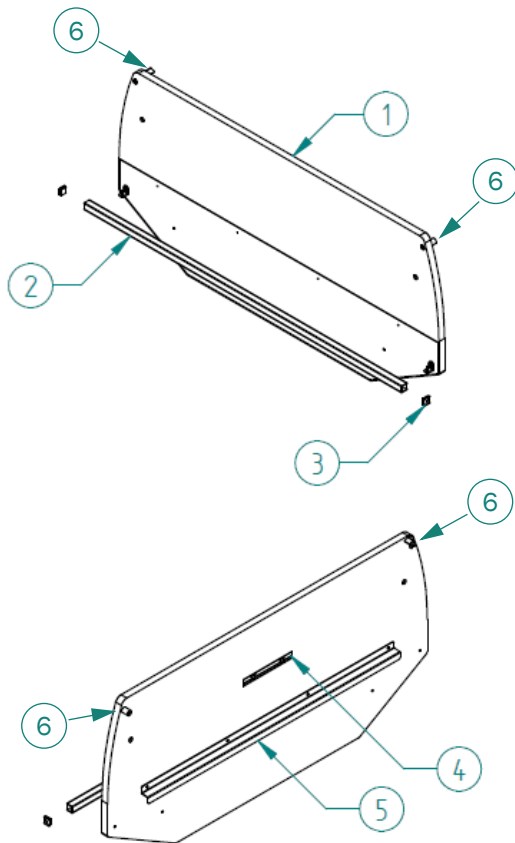


Provide the following information about the part you are ordering:

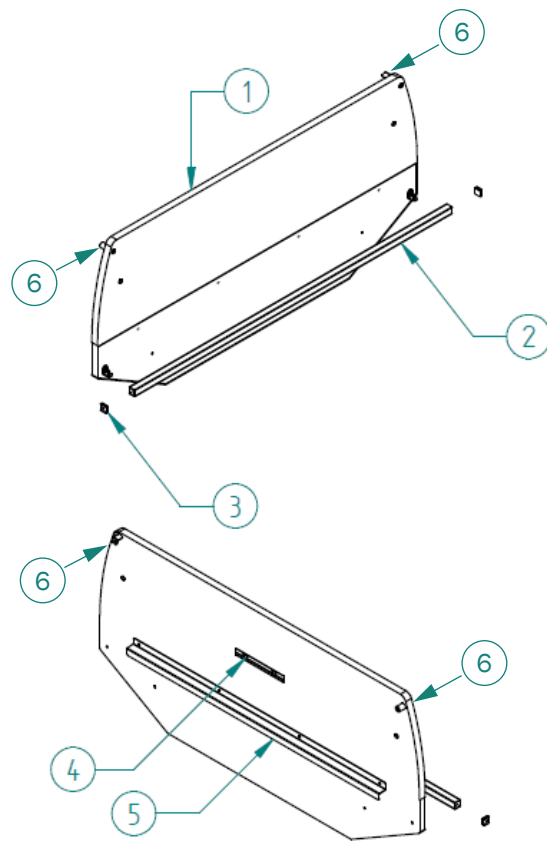
- Model number and serial number* of the case for which the part is intended.
- Length of the part (if applicable).
- Color of part (if painted) or color of polymer part.
- Whether part is for left or right-hand application.
- Quantity

END WALLS / SIDE BUMPER

LEFT END WALL



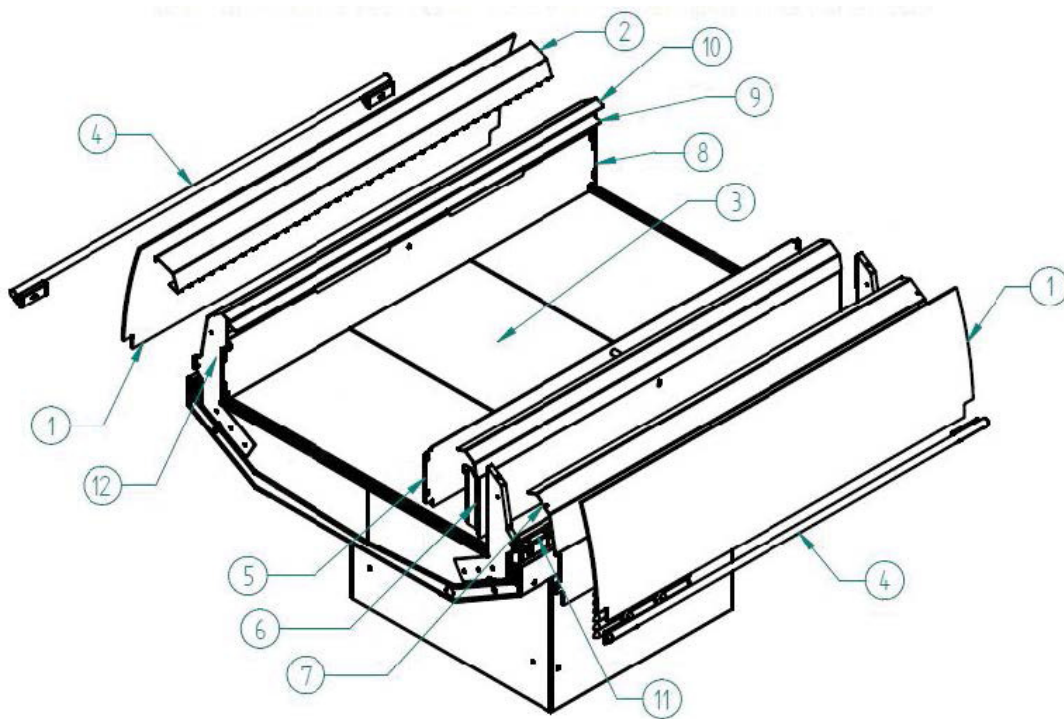
RIGHT END WALL



#	DESCRIPTION	LEFT	PCS	RIGHT	PCS
1	Plexiglass end wall	P113544B	1	P113544B	1
2	End wall bumper rail kit	P116638M	1	P116638M	1
3	Cap for bumper rail	P113547F	2	P113547F	2
4	Label "Load limit line"	P113549B	1	P113549B	1
5	Support for Plexiglass end wall	P113548D	1	P113548D	1
6	SPCR SPCR,SPCR,PLX,D1.5	P117552	2	P117552	2

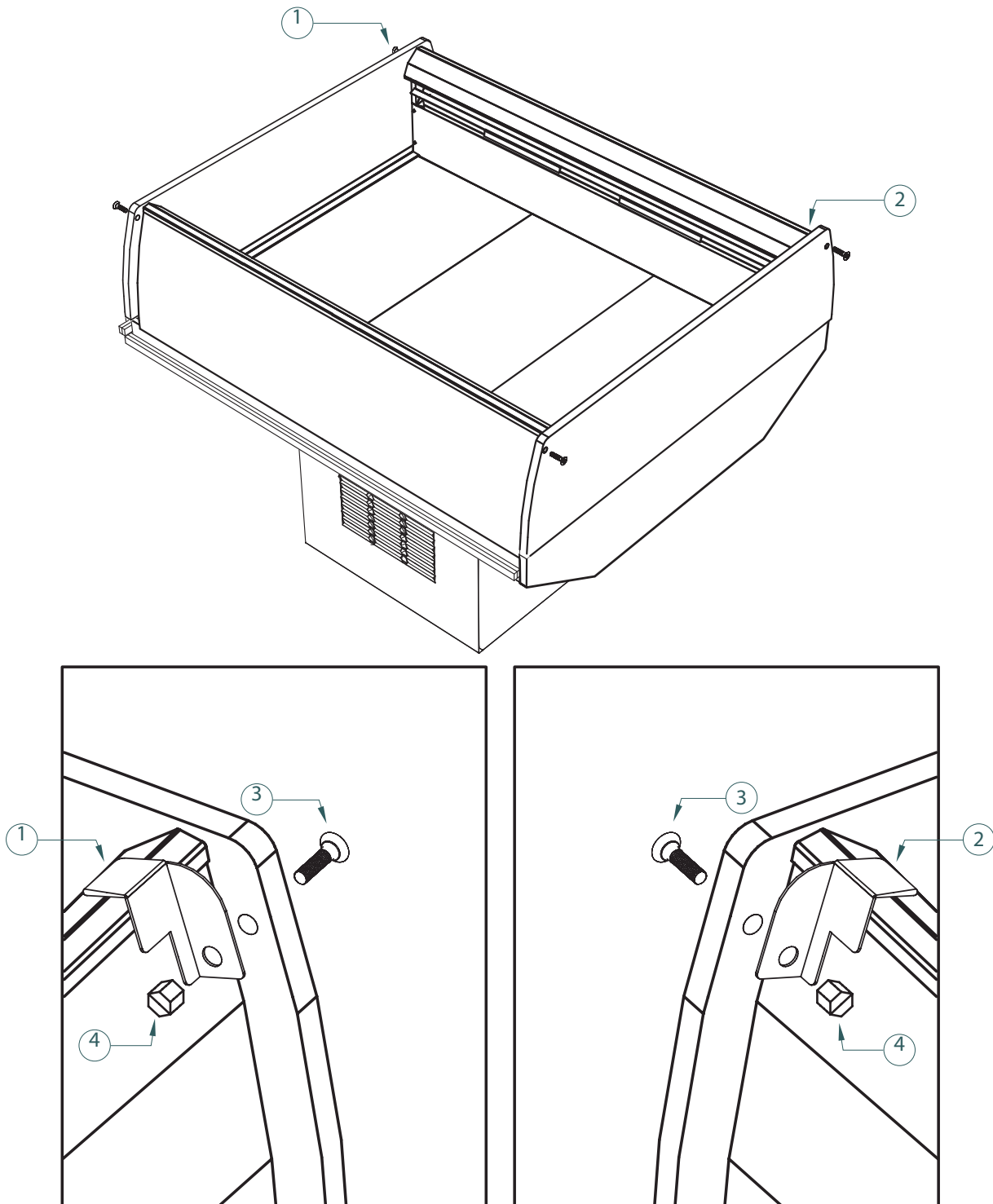
PARTS LIST

PLEXIGLASS/BUMPER RAIL / DISPLAY AREA



#	DESCRIPTION	Part Number	PCS
1	Tempered Front and Rear curved glass	P113550K	2
2	Anti-condensation Front	P113551G	1
3	Display deck with hole	P113553C	3
4	End wall bumper rail kit	See prior page	2
5	Product holder	P113554A	1
6	Rear Air inlet	P113555K	1
7	Rear closed air inlet	P113556G	1
8	Product holder	P113557E	1
9	Rear Air inlet	P113558C	1
10	Rear closed air inlet	P113559A	1
11	Solar Thermometer	P113560H	1
12	Air inlet end wall dx/sx	P113561F	4

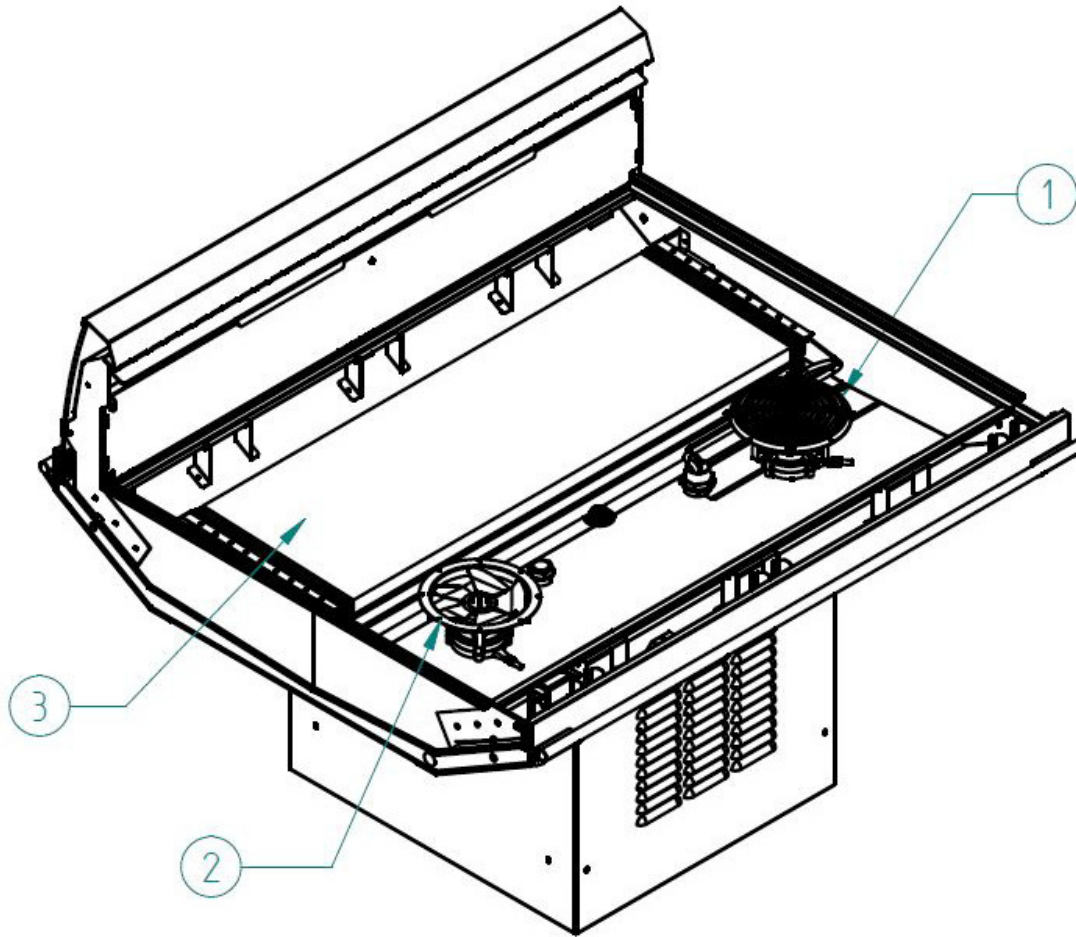
PLEXIGLASS/BUMPER RAIL / DISPLAY AREA



#	DESCRIPTION	Part Number	PCS
1	SP,LH BRACKET 19-00783-01Q02	P118623K	1
2	SP,RH BRACKET 19-00783-01Q03	P118624G	1
3	CROSS RECESSED COUNTERSUNK SCREW, PHILLIPS M6 x 20	P117890E	2
4	CAP NUT, STAINLESS M6	P117893K	2

PARTS LIST

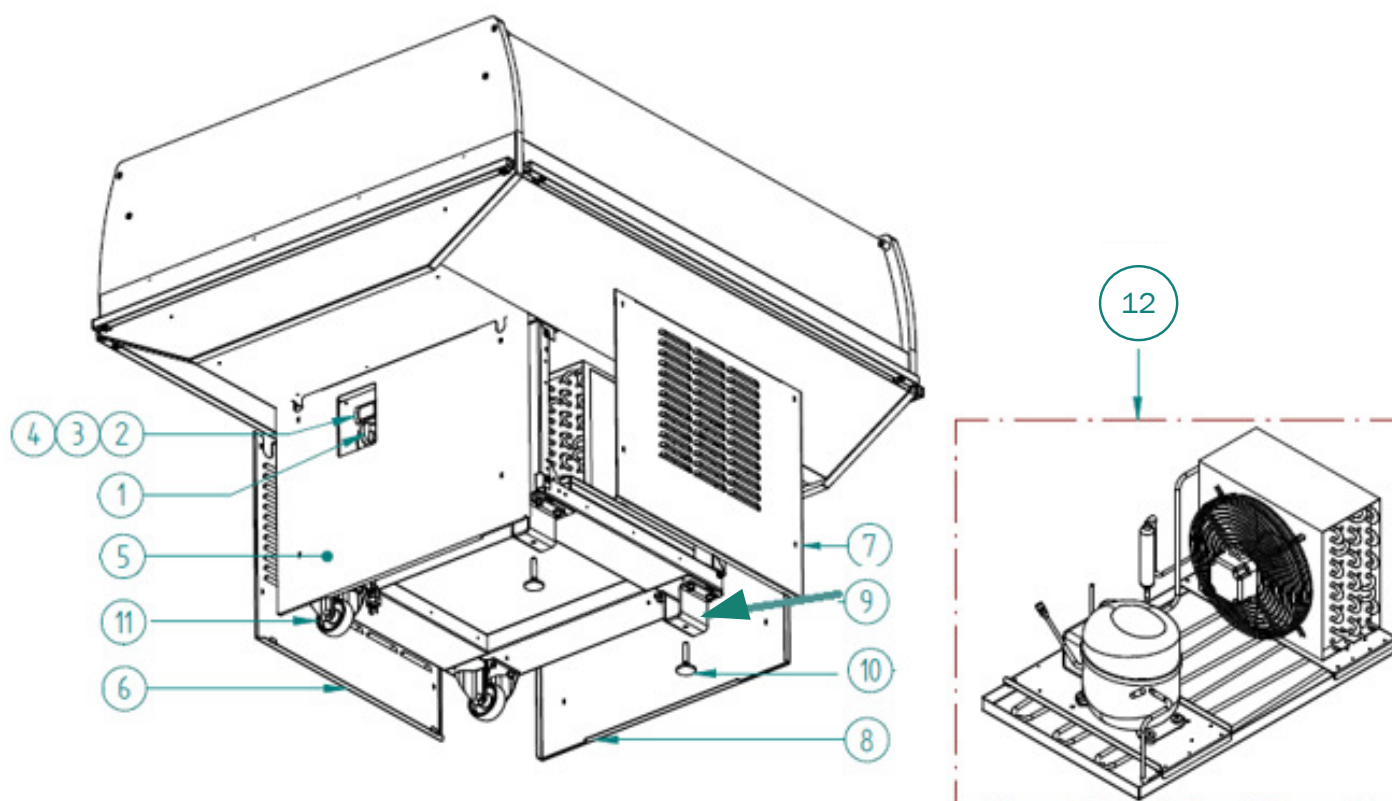
EVAPORATOR / EVAPORATOR FANS



#	DESCRIPTION	Part Number	PCS
1	Protective metal grid Ø200 for evaporator fan	P113562D	2
2	*Evaporator fan complete with impeller and metal ring	"C" Serial Number: P113563B "D" Serial Number: P117257G	2
3	Evaporator R290	P113564M	1

NOTE: The Evaporator Fan will differ based on the serial number of the MIDA case. If the MIDA case serial number ends in "C", please use "C" Serial Number part and if the serial number ends in "D", please use the "D" Serial Number part.

LOWER PARTS

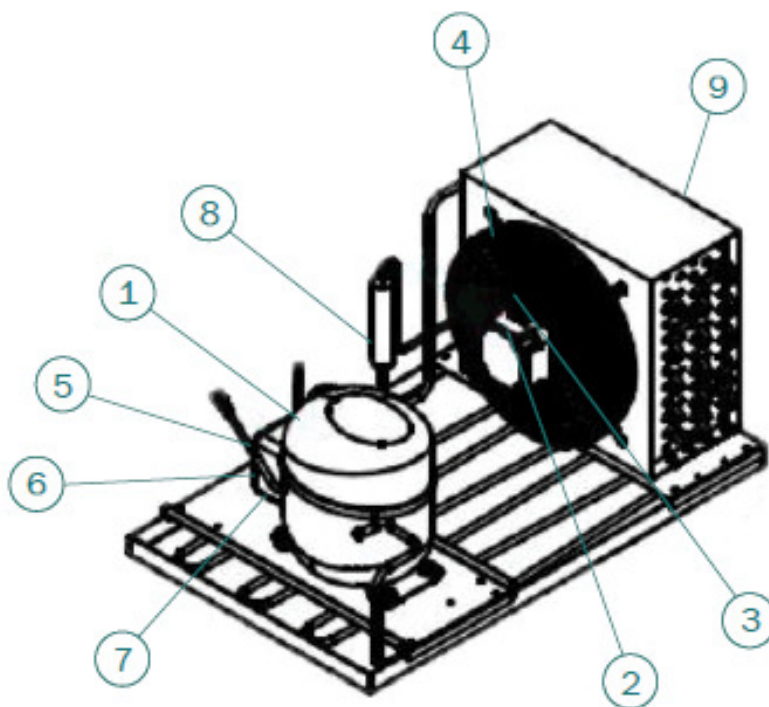


#	DESCRIPTION	Part Number	PCS
1	ON-OFF switch 16A	P113565H	1
2	Carel Thermostat PJEZCOH100 115V 3 RELE 2HP 2NTC	P113566F	1
3	Temp Sensor MIDA 4	P116632B	1
4	*Condensing Unit Relay MIDA 4	"C" Serial Number: P116636D "D" Serial Number: P117256K	1
5	Left side base panel INOX	P113567D	1
6	Rear base panel INOX	P113568B	1
7	Front base panel INOX	P113569M	1
8	Right side base panel INOX	P113570G	1
9	Adjustable feet support 40X40 SP.1,5 M10	P113571E	2
10	Adjustable feet TH40 M10X65	P113572C	2
11	Support Wheel Ø80 fixed	P113573A	2
12	Compressor Unit Assembly	P116621E	1

NOTE: The Condensing unit relay will differ based on the serial number of the MIDA case. If the MIDA case serial number ends in "C", please use "C" Serial Number part and if the serial number ends in "D", please use the "D" Serial Number part.

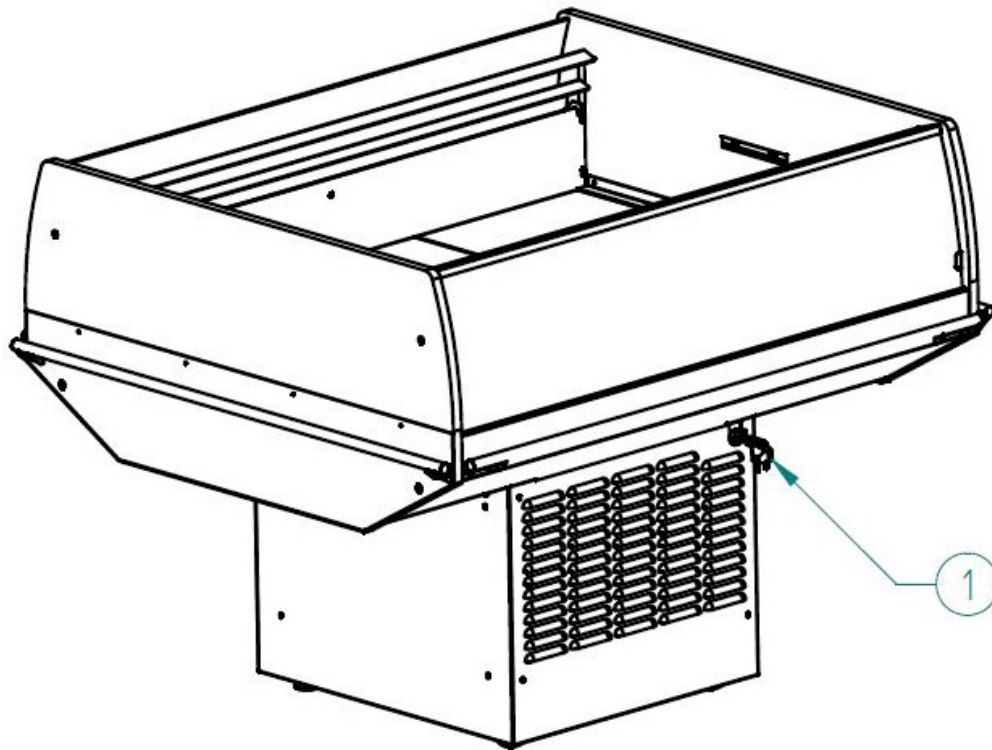
PARTS LIST

CONDENSOR UNIT PARTS - MIDA 4



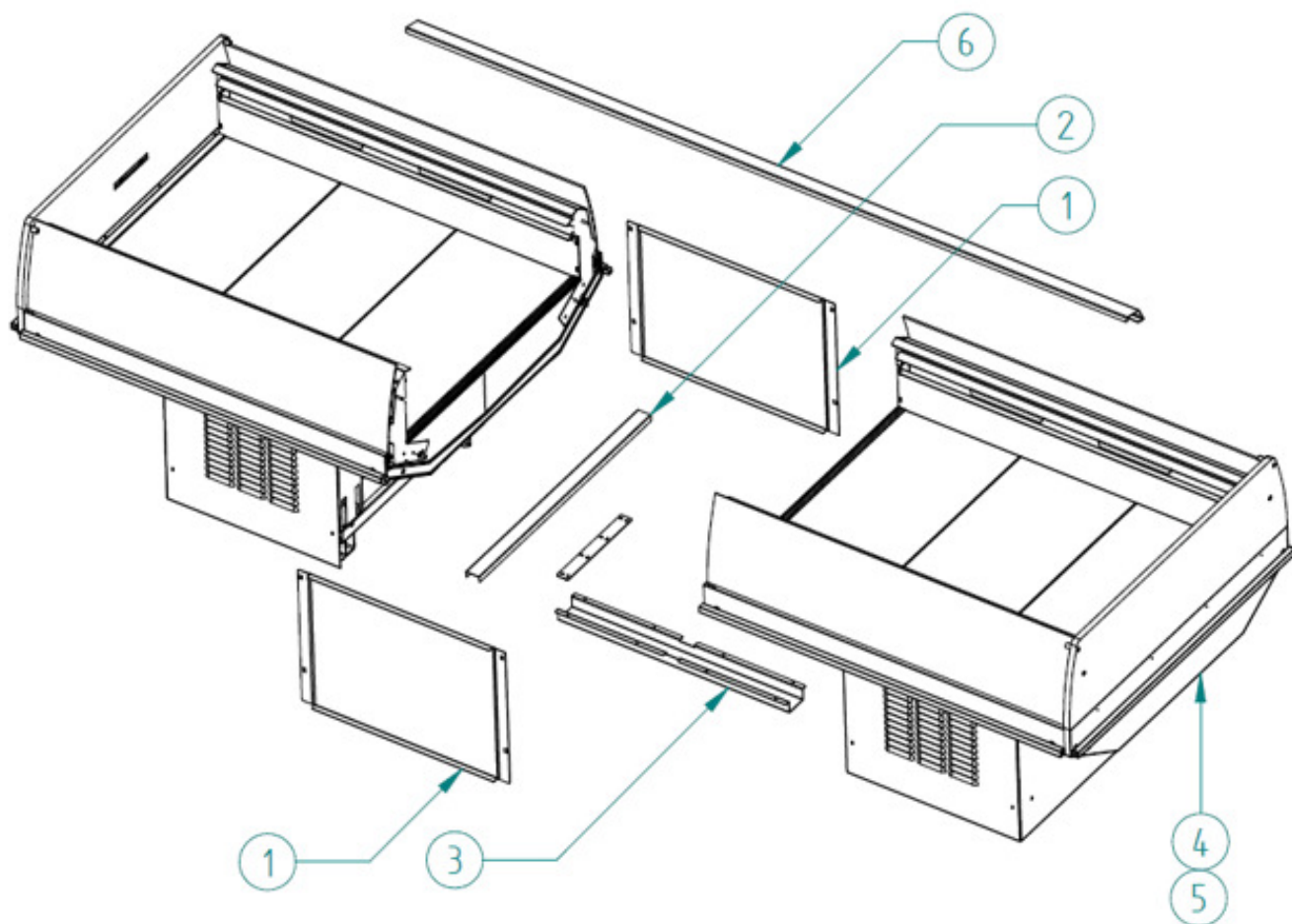
#	DESCRIPTION	Part Number	PCS
1	Compressor MIDA 4	P113574K	1
2	Condensing Fan Motor MIDA 4	P113575G	1
3	Condensing Fan Blade MIDA 4	P116622C	1
4	Condensor Fan Guard MIDA 4	P116623A	1
5	Compressor Start Capacitor MIDA 4	P116624K	1
6	Compressor Start Relay (ePTC) MIDA 4	P116625G	1
7	Clikson MIDA 4	P116627C	1
8	Filter Dryer MIDA 4	P116629K	1
9	Condensor Coil MIDA 4	P116631D	1

ELECTRICAL CORD



#	DESCRIPTION	Part Number	PCS
1	Electrical plug NEMA 5-15 Straight Blade Plug	P113636D	1
2	Electrical plug NEMA L5-15 Locking Plug	P117255A	1

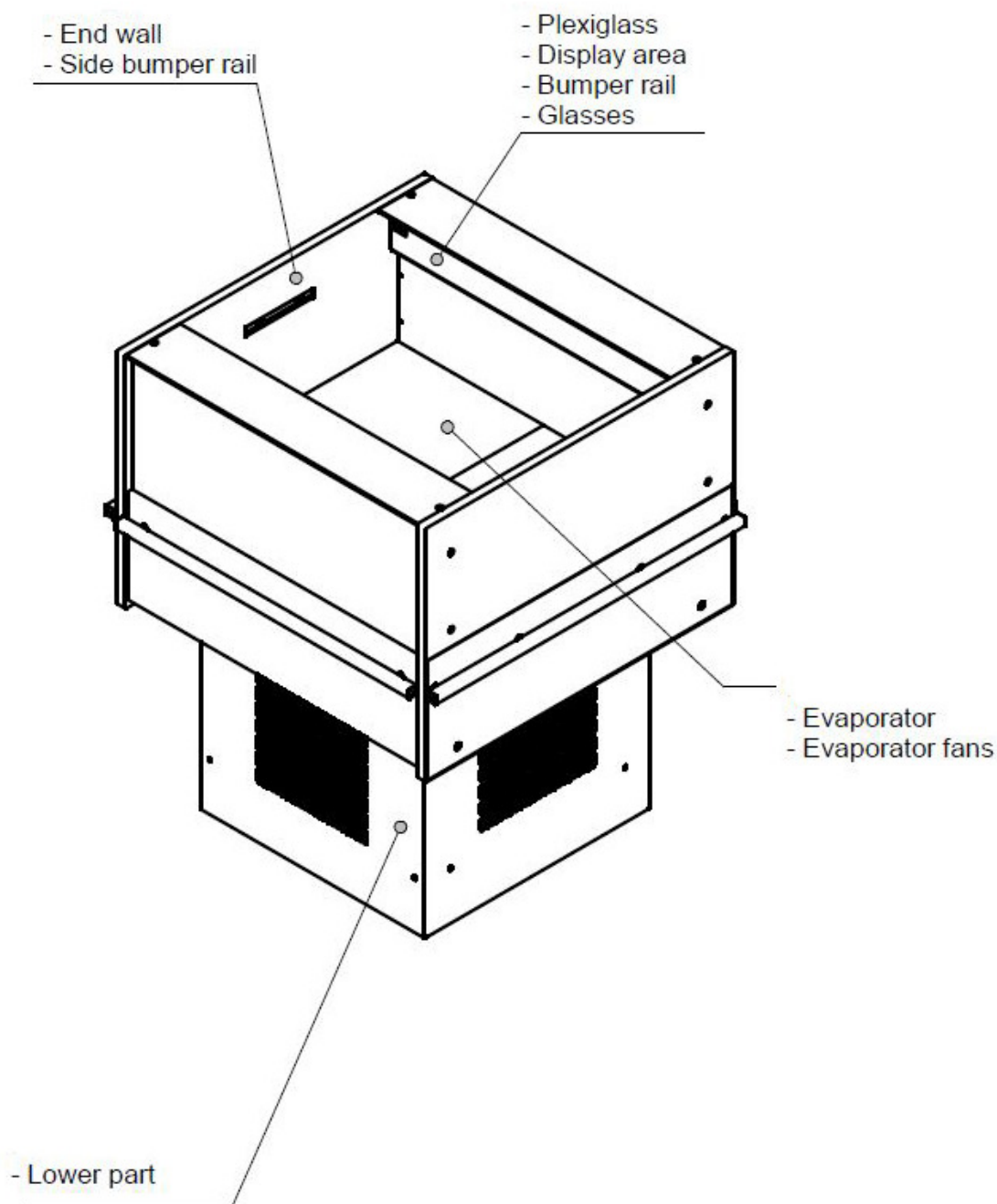
MIDA-8 JOINING KIT



#	DESCRIPTION	Part Number	PCS
1	Front-Rear close panel INOX	P113577C	2
2	Joining kit	P113578A	1
3	Cables profile	P113579K	1
4	Case Controller MIDA-8 P116633M 1	P116633M	1
5	Temp Sensor MIDA-8	P116634H	1
6	Anti-Fog Front Double	P117551C	1

NOTE: All parts on MIDA-8 same as MIDA-4 parts unless shown on this page.

PARTS INDEX MIDA-3x3



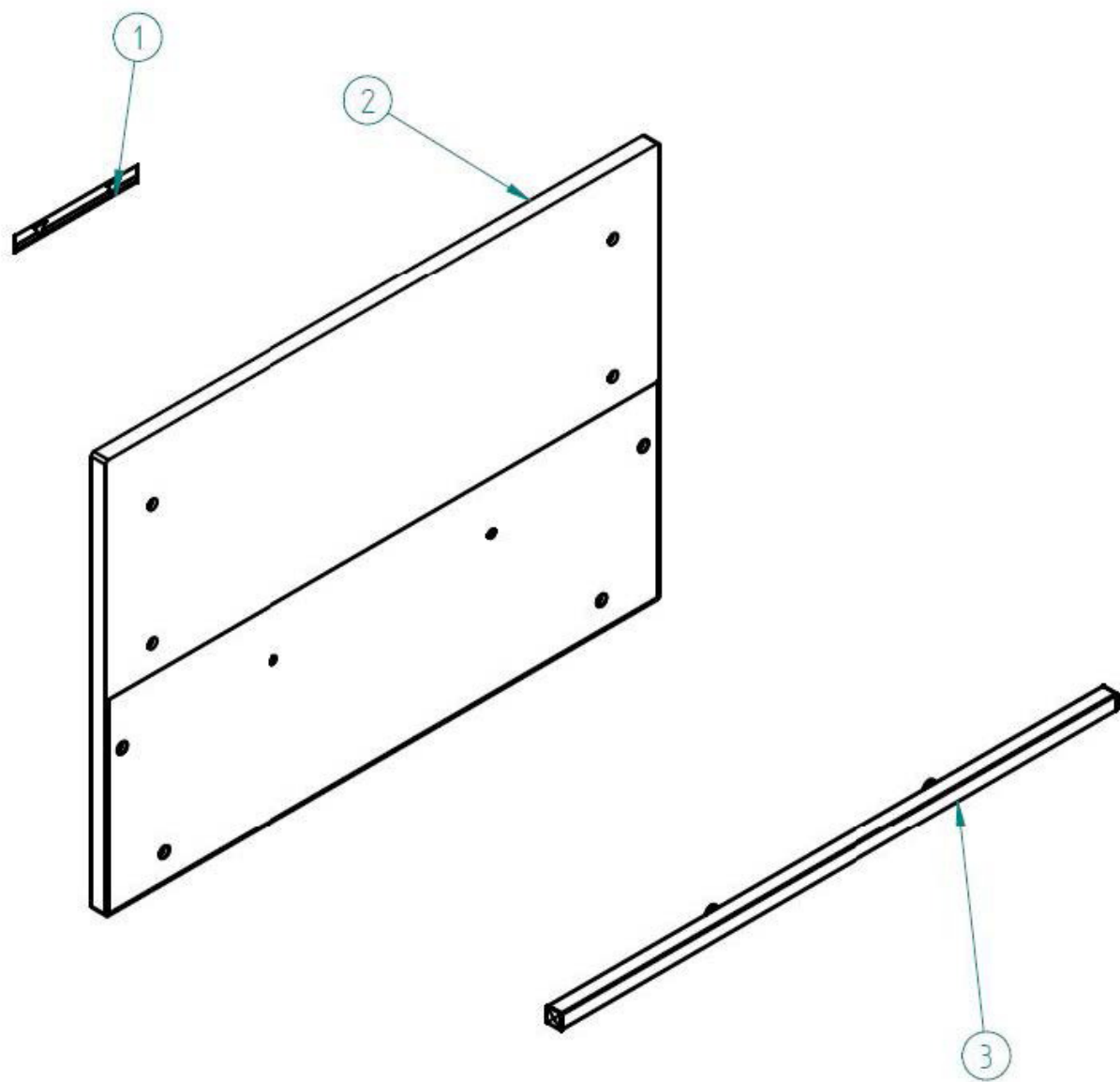
 	

Provide the following information about the part you are ordering:

- Model number and serial number* of the case for which the part is intended.
- Length of the part (if applicable).
- Color of part (if painted) or color of polymer part.
- Whether part is for left or right-hand application.
- Quantity

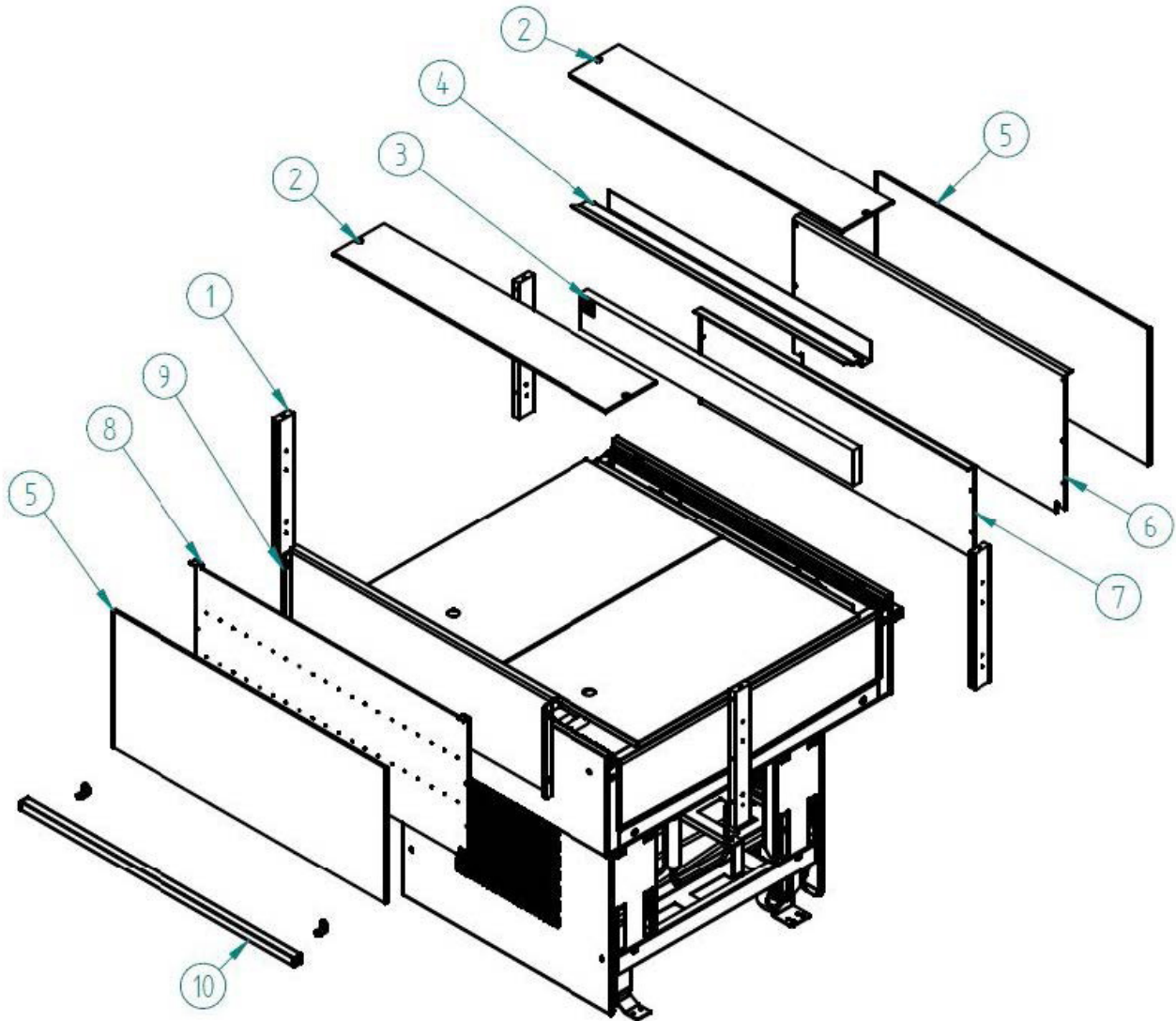
PARTS LIST

END WALLS / SIDE BUMPER



#	DESCRIPTION	Part Number	PCS
1	Label "Load limit line"	P114171B	1
2	Plexiglass end wall	P114172M	1
3	End wall bumper rail kit	P114173H	1

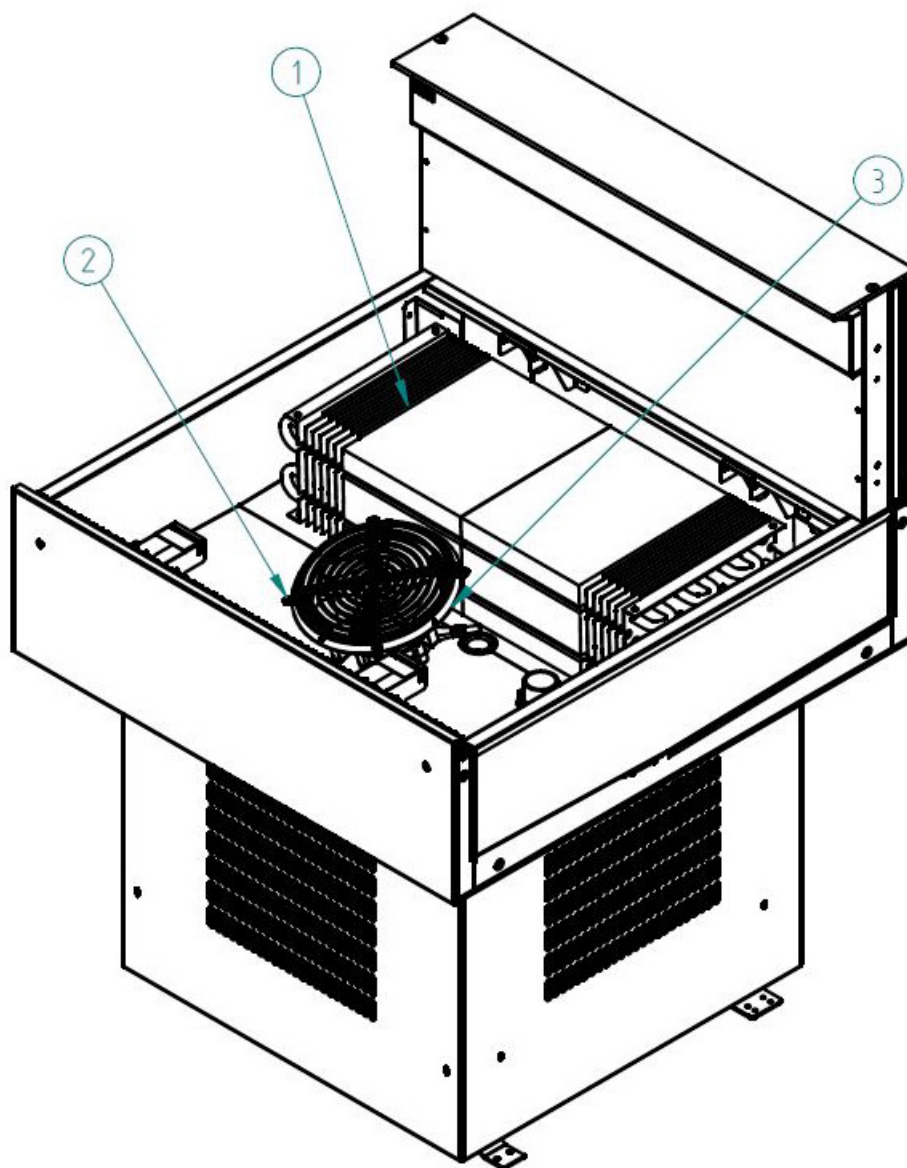
END WALLS / SIDE BUMPER



#	DESCRIPTION	Part Number	PCS
1	Air Inlet End Wall DX/SX	P114146E	4
2	Plexi Worktop	P114147C	2
3	Honeycomb	P114148A	1
4	Honeycomb Holder	P114149K	1
5	Front/ Rear Glass	P114150F	2
6	Rear Closed Air Inlet	P114151D	1
7	Product Holder	P114152B	1
8	Front Holed Air Inlet	P114153M	1
9	Front Air Inlet	P114154H	1
10	Front and Back Bumper Rail Kit	P114155F	2

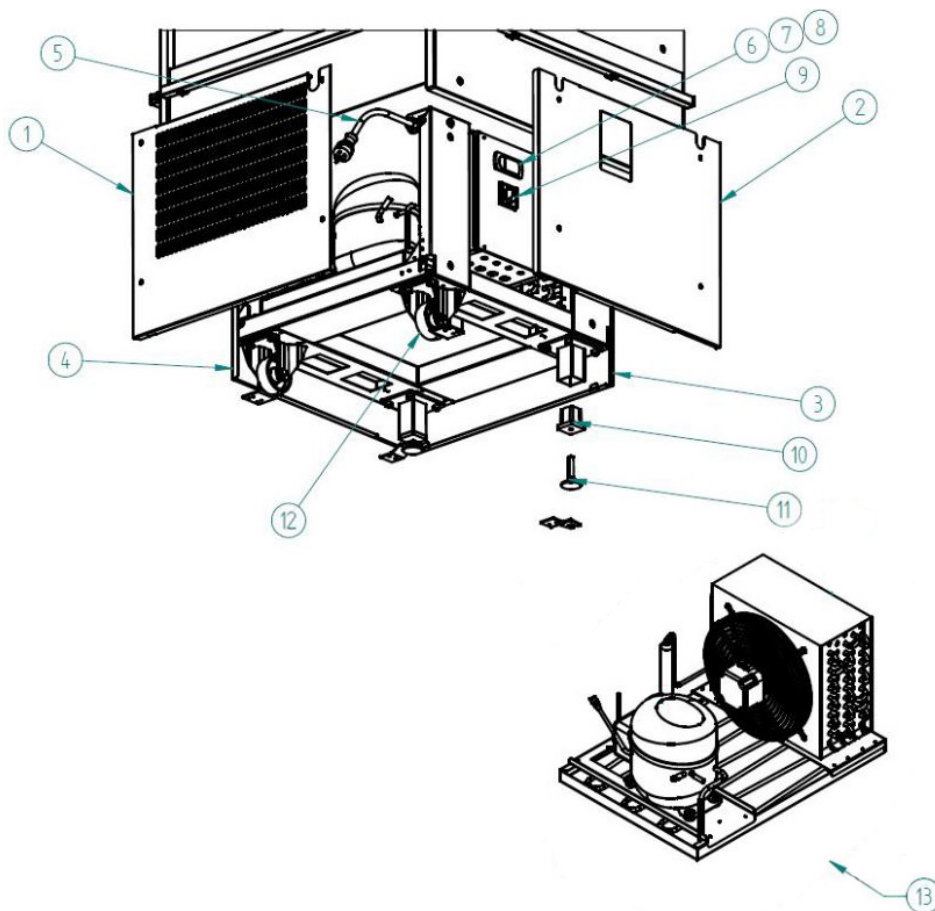
PARTS LIST

EVAPORATOR / EVAPORATOR FANS



#	DESCRIPTION	Part Number	PCS
1	Evaporator R290	P114156D	1
2	Protective Metal Grid For Evaporator Fan	P113562D	1
3	Evaporator Fan Complete with Impeller and Metal Ring	P113563B	1

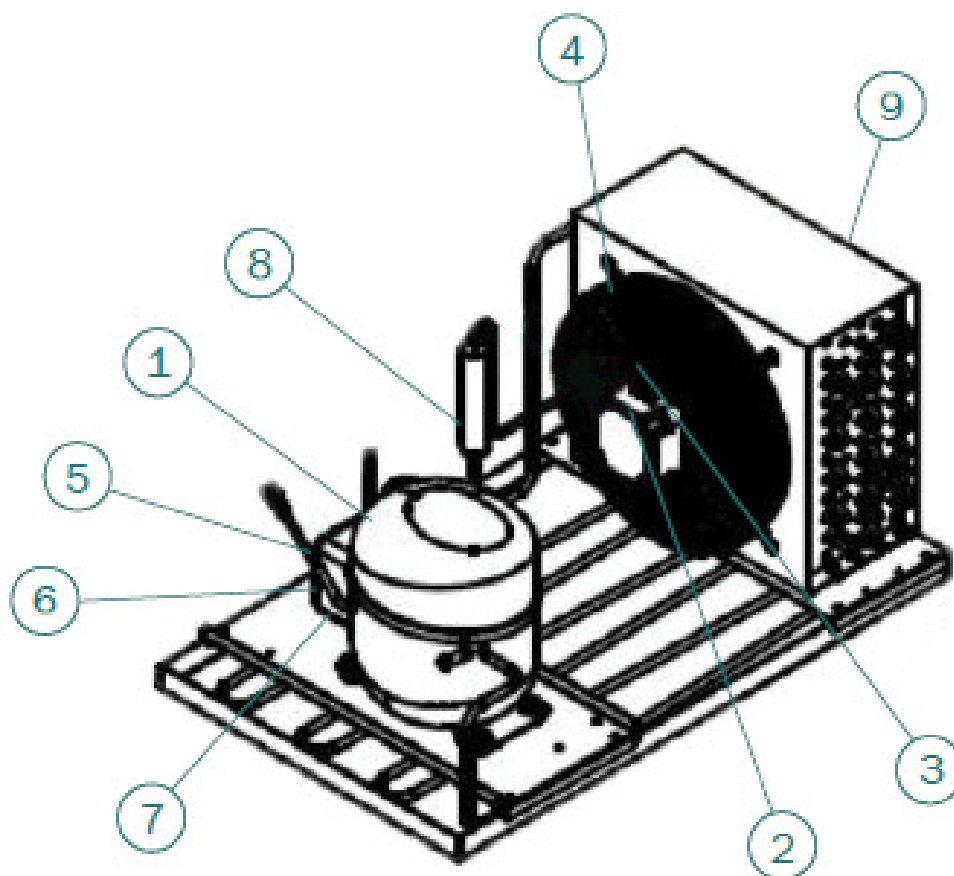
LOWER PARTS



#	DESCRIPTION	Part Number	PCS
1	Rear Base Panel	P114159H	1
2	Left Side Base Panel	P114160E	1
3	Front Base Panel	P114161C	1
4	Right Side Base Panel	P114162A	1
5	Electrical Plug	P113576E	1
6	Carel Thermostat PJEZCOH100	P113566F	1
7	Temp Sensor MIDA 3	P116632B	1
8	Condensing Unit Relay MIDA 3	P116637B	1
9	On/Off Switch	P113565H	1
10	Adjustable Feet TH40	P114167A	1
11	Adjustable Feet Support	P114166C	1
12	Support Wheel	P114168K	1
13	Condensing Unit SP 0905.083A	P115686M	1

PARTS LIST

CONDENSOR UNIT PARTS - MIDA 3



#	DESCRIPTION	Part Number	PCS
1	Compressor MIDA 3	P114170D	1
2	Condensing Fan Motor MIDA 3	P114169G	1
3	Condensing Fan Blade MIDA 3	P116622G	1
4	Condensor Fan Guard MIDA 3	P116623A	1
5	Compressor Start Capacitor MIDA 3	P116624K	1
6	Compressor Start Relay (ePTC) MIDA 3	P116626E	1
7	Clikson MIDA 3	P116628A	1
8	Filter Dryer MIDA 3	P116630F	1
9	Condensor Coil MIDA 3	P116631D	1

MIDA-3X3 PARTS ORDERING NOTES

PJEZ (PJEZ****G/H/I/L/M/N/O/P*) - electronic controller

CAREL



Label e commanda
NUTTE (PITRUZZI)
READ AND HAVE
THESE INSTRUCTIONS

Dimensions (mm)

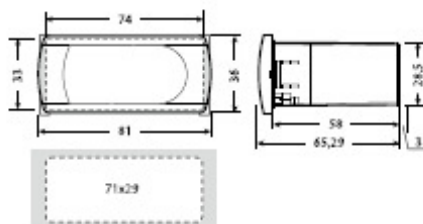


Fig. 1

Panel mounting

Rear (with 2 quick-fit side brackets)

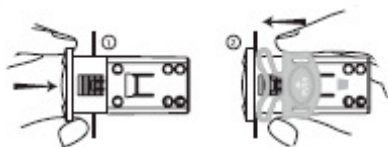


Fig. 2

Electrical connections

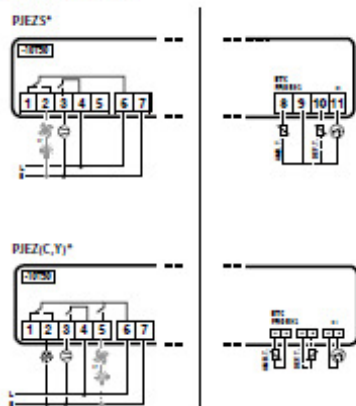


Fig. 3

Safety standards:

Installation precautions:

- the connection cables must guarantee insulation up to 90 °C;
- ensure a space of at least 10 mm between the case and the nearby conductive parts;
- digital and analogue input connections less than 30m away; adopt suitable measures for separating the cables so as to ensure compliance with the immunity standards; Secure the connection cables of the outputs so as to avoid contact with very low voltage parts.



Disposal of the product

The appliance (or the product) must be disposed of separately in accordance with the local waste disposal legislation in force.

Description

PJEZ* (models S, Y, C) represent a range of electronic microprocessor controllers with LED display developed for the management of refrigerating units, display cabinets and showcases.

- PJEZS*, designed for the management of static refrigerating units, no fan on the evaporator, operating at temperature above 0°C;
- PJEZY*, designed for the management of static refrigerating units, no fan, operating at low temperatures;
- PJEZC*, designed for the managements of low temperature ventilated refrigerating units.

Technical specifications

power supply	230 Vac +10 /-15% 50/60 Hz; 115 Vac +10 /-15% 50/60 Hz
rated power	3.5 VA
inputs	NTC probes 1 or 2 inputs 1 digital input
relay outputs	30 A relay: UL: 16 A Res. 16 FLA 96 LRA - 240 Vac (FASTON tabs) EN60730-1: 20(10) A 250 Vac (FASTON tabs) UL: 12 A Res. 12 FLA 72 LRA - 240 Vac EN60730-1: 12(10) A 250 Vac 8 A relay: UL: 8 A Res. 2 FLA 12 LRA - 240 Vac C300, EN60730-1: 8(4) A NO, 6(4) A NC, 2(2) A CO - 250 Vac 5 A relay: UL: 5 A Res. 1 FLA 6 LRA - 240 Vac C300, EN60730-1: 5(1) A - 250 Vac
type of probe	Std CAREL NTC 10 K.Ω at 25 °C
connections	for screw terminals, cross-section of cables from 0.5 mm ² to 1.5 mm ² , rated maximum current per terminal 12A for FASTON tabs, cross-section of cables up to 2.5 mm ² , rated maximum current per terminal 20A
assembly	use rear brackets
display	2 digit LED display with sign (-99 to 99) and decimal point; four status LEDs
operating conditions	-10/50 °C - humidity <90% rH non-condensing
storage conditions	-20/70 °C - humidity <90% rH non-condensing
range of measurement	-50/70 °C - resolution 0.1 °C
front panel index of protection	panel installation with IP65 type 1 gasket
case	plastic terminal, 81x26x65 mm
classification according to protection against electric shock	Class II when suitably integrated
environmental pollution	normal
PTI of the insulating material	250V
period of stress across the insulating parts	long
category of resistance to heat and fire	category D (UL94 - V2)
immunity against voltage	category 1
type of action and disconnection	1C relay contacts
no. of relay automatic operating cycles	100,000 operations
software class and structure	Class A
cleaning the instrument	only use neutral detergents and water
cable max. length	probes: 30m, relay: 10m

WARNING:

- do not run the power cable less than 3 cm from the bottom part of the device or from the probes;
- the connections only use copper wires;
- relay not allowed to use on fluorescent lamp(neon) with phase-shift capacitors.

Table of alarms

Alarm code	LED	Description	Parameters involved
EO		probe 1 error = control	-
E1 (*)		probe 2 error = defrost	[d0 = 0 / 1]
dr(*)		open door alarm	-
Lo		low temperature alarm	[AL] [Ad] [AO]
Hi		high temperature alarm	[A-H] [Ad] [AO]
EE		unit parameter error	-
EF		operating parameter error	-

(*) not available for PJEZS*E*

IMPORTANT WARNINGS

The CAREL product is a state-of-the-art device, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website www.carel.com. The customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific final installation and/or equipment. The failure to complete such phase, which is required/indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases. The customer must use the product only in the manner described in the documentation relating to the product. The liability of CAREL in relation to its products is specified in the CAREL general contract conditions, available on the website www.carel.com and/or by specific agreements with customers.

Parameters table

Table of parameters for PIEZY*, PIEZC*, PIEZS**

	Description	Type	Min	Max	Def.	UOM
PS	PS Password	F	0	99	22	-
-C1	-C1 Probe 1 calibration	F	-20	20	0	°C
-C2	-C2 Probe 2 calibration	F	-20	20	0	°C
St	St Control temperature	F	-50	90	4.0	°C
rd	rd Control differential	F	0	19	2.0	°C
c0	c0 Comp. and fan start delay after start-up	C	0	99	0	Min
c2	c2 Min. compressor off time	C	0	99	3	Min
d0	d0 Type of defrost (0= heater; 1= hot gas; 2= heater by time; 3= hot gas by time; 4= heater by time with temp. cont.)	C	0	4	0	-
dl	dl Interval between two defrosts	C	0	24	8	Hour
dt	dt End defrost temperature	C	-50	90	12	°C
dP	dP Max. or effective defrost duration	C	1	99	30	Min
dd	dd Dripping time after defrost	C	0	15	2	Min
A0	A0 Fan and alarm differential (≤0, AL and AH expressed as absolute; >0, AL and AH expressed relative to the set point)	C	-20	20	-2.0	°C
AL	AL Low temperature alarm threshold/deviation (when A0≤0, AL=50; alarm disable, when A0>0, AL=0; alarm disable)	C	-50	90	-50	°C
AH	AH High temperature alarm threshold/deviation (when A0≤0, AH=90; alarm disable, when A0>0, AH=0; alarm disable)	C	-50	90	90	°C
Ad	Ad Low and high temperature alarm delay	C	0	99	0	Min
A4	A4 door related FAN or Light management 0= input not active 1=door opening with FAN OFF 2= door opening with Light ON(FAN is not available, Light output is activated)	C	0	2	0	-
F0	F0 enable fan control	C	0	1	0	-
F1	F1 Fans shutdown temperature	F	-50	99	5.0	°C
F2	F2 fan off when compressor off	C	0	2	1	-
F3	F3 fan states during defrost	C	0	1	1	-
Fd	Fd post-dripping time	C	0	15	0	Min
F4	F4 Start delay when FAN ON is required by the Regulation	C	1	99	3	Sec
F5	F5 Fan Duty Cycle(with F2=2): ON time	C	1	99	5	Min
F6	F6 Fan Duty Cycle(with F2=2): OFF time	C	1	99	5	Min
r1	r1 Minimum set point allowed to the user	C	-50	r2	-50	°C
r2	r2 Maximum set point allowed to the user	C	r1	90	90	°C

Table of parameters for PIEZS**

	Description	Type	Min	Max	Def.	UOM
PS	PS Password	F	0	99	22	-
-C1	-C1 Probe 1 calibration	F	-20	20	0	°C
St	St Control temperature	F	-50	90	4.0	°C
rd	rd Control differential	F	0	19	2.0	°C
c0	c0 Comp. and fan start delay after start-up	C	0	99	0	Min
c2	c2 Min. compressor off time	C	0	99	3	Min
dl	dl Interval between two defrosts	C	0	24	8	Hour
dP	dP Max. or effective defrost duration	C	1	99	30	Min
dd	dd Dripping time after defrost	C	0	15	2	Min
A0	A0 Fan and alarm differential (≤0, AL and AH expressed as absolute; >0, AL and AH expressed relative to the set point)	C	-20	20	-2.0	°C
AL	AL Low temperature alarm threshold/deviation (when A0≤0, AL=50; alarm disable, when A0>0, AL=0; alarm disable)	C	-50	90	-50	°C
AH	AH High temperature alarm threshold/deviation (when A0≤0, AH=90; alarm disable, when A0>0, AH=0; alarm disable)	C	-50	90	90	°C
Ad	Ad Low and high temperature alarm delay	C	0	99	0	Min
r1	r1 Minimum set point allowed to the user	C	-50	r2	-50	°C
r2	r2 Maximum set point allowed to the user	C	r1	90	90	°C

*F: frequent parameters, without password

**C: configuration parameters, with password

Fixed settings

- Minimum compressor ON time is 1 minute;
- If there is no defrost relay, the compressor will be shut down for defrost;
- Freeze the display when defrost, it returns when the temperature reaches the set point;
- Alarm is bypassed 1 hour after defrost;
- Open door alarm will be activated after detecting the door opening 5 minutes.

Setting the set point (desired temperature)

- press for 1 s, the set value will start flashing after a few moments;
- increase or decrease the value using or ;
- press to confirm the new value.

Switching the device ON/OFF

press for more than 3 s. The control and defrost algorithms are now disabled and the instrument displays the message "OFF" alternating with the temperature read by the set probe.

Manual defrost (only for models C/Y)

press down for DOWN more than 3 s (the defrost starts only the temperature conditions are valid).

Show defrost probe temperature(only for models C/Y)

press and together.

Access and setting type F (frequent) and type C (configuration) parameters

- press for 3 s (the display will show "PS");
- to access the type F and C parameter menu, enter the password "22" using / .
- to access the F parameter menu only, press (without entering the password);
- scroll inside the parameter menu using / .

To display/set the values of the parameter displayed, press , then / and finally to confirm the changes (returning to the parameter menu).

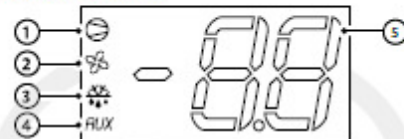
To save all the new values and exit the parameter menu, press for 3 s;

To exit the menu without saving the changed values (exit by timeout) do not press any button for at least 60 s.

Display and functions

During normal operation, the controller displays the ambient temperature. In addition, the display has LEDs that indicate the activation of the control functions (see Table 1), while the 3 buttons can be used to activate/deactivate some of the functions (see Table 2).

LEDs and associated functions



index	function	normal operation		Start up
		ON	OFF	blink
1	compressor	on	off	request on
2	fan	on	off	request on
3	defrost	on	off	request on
4	aux	output on	output off	- on
5	digit	2 digit LED display with sign (-99 to 99) and decimal point		

Table.1

Table of functions activated by the buttons



button	normal operation		start up	
	pressing the button alone	pressed together		
	more than 3 s: toggle ON/OFF	pressed together display defrost probe temp.	-	
	more than 3 s: start/stop defrost		Pressed together start parameter reset procedure	For 1 s: display firmware vers. code
	1 s: display/set the set point More than 3 s: access parameter setting menu(enter password "22")			

Table.2

APPENDIX MIDA-4X8

+0500156ML - rel. 2.1 - 30.03.2022

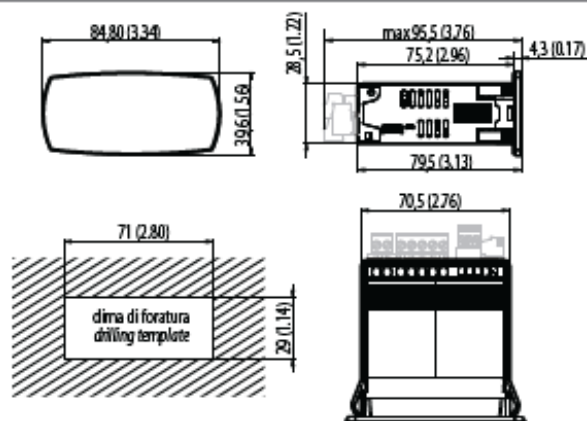
ITA ENG



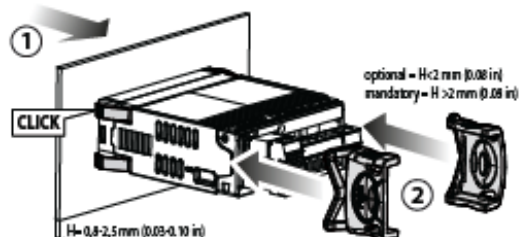
IF ADVANCED PANEL SMALL VERSION
Food Storage & Catering Display



DIMENSIONI / DIMENSIONS [mm (in)]



MONTAGGIO / MOUNTING



DISPOSITIVO MOBILE / MOBILE DEVICE

Le app Carel permettono di configurare il controllo da dispositivo mobile (Smartphone, Tablet), tramite NFC (Near Field Communication) e tramite BLE (Bluetooth Low Energy). Dispositivi supportati: Android 6, iOS 11, Bluetooth® 4.0, e seguenti. / The Carel app can be used to configure the controller from a mobile device (smartphone, tablet), via NFC (Near Field Communication) or BLE (Bluetooth Low Energy). Supported devices: Android 6, iOS 11, Bluetooth® 4.0, and following.



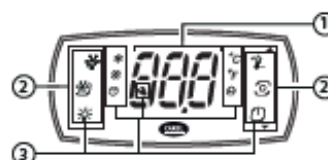
MODELLI E OPZIONI / MODELS AND OPTIONS

UFPSA	*	*	**	*	****
(n. relays)				(packaging)	(progressive)
1-6	7	8	9-10	11	12-15

Pos.	Significato / Meaning	Valori / Values	Descrizione / Description
8	Connettività / Connectivity	N	NFC
		B	NFC, RTC
		B	NFC, RTC, Bluetooth
9-10	Opzioni / Options	00	Nessuna / None
		01	ITL
		02	BMS
		04	BMS, VCC modalità seriale / BMS, VCC serial mode
		06	BMS, 2 Uscite analogiche 0-10V/PWM / VCC modalità in frequenza / BMS, 2 x 0-10V/PWM analog output / VCC frequency mode
		07	BMS, 1 Ingresso analogico 0-5V rat. / BMS, 1 x 0-5V rat. analogue input
		10	2 Uscite analogiche 0-10V/PWM / VCC modalità in frequenza / 2 x 0-10V/PWM analog output / VCC frequency mode

Conformità	- Allegato CC della IEC 60335-2-24:2010 a cui fa riferimento la clausola 22.109 e Allegato BB della IEC 60335-2-89:2010 a cui fa riferimento la clausola 22.108; i componenti che producono archi o scintille durante il normale funzionamento sono stati testati e ritenuti conformi ai requisiti della UL / IEC 60079-15; - IEC / EN UL 60335-2-24 (clausole 22.109, 22.110) per frigoriferi e congelatori domestici; - IEC / EN UL 60335-2-40 (clausole 22.116, 22.117) per pompe di calore elettriche, condizionatori d'aria e deumidificatori; - IEC / EN UL 60335-2-89 (clausole 22.108, 22.109) per apparecchi refrigeranti commerciali. I controlli sono stati verificati per le temperature massime di tutti i componenti, i quali durante i test previsti dalla IEC 60335 cl. 11 e 19 non superano i 272°C. L'accettabilità di questi controlli nell'applicazione per uso finale in cui sono utilizzati gas refrigeranti infiammabili deve essere rivista e valutata a seconda dell'applicazione finale. Conformità wireless
	Direttiva RED (EN 301489-1), FCC (sez. 15, sottosez. B), IC.

TERMINALE UTENTE



Legenda:
1 display
2 Icone/tasti
3 Icone

Icone/Tasti retroilluminati

Icona/Tasto	Descrizione	Accesso/Fisso	Lampeggiante
Setpoint/ Freccia su	Incremento valore o scorrimento menu Accesso diretto impostazione setpoint		
Program	Pressione breve: - ingresso ramo menu - salvataggio valore e ritorno al codice del parametro Pressione lunga (3 s): - ingresso modo programmazione - ritorno al livello precedente		
On-Off/ Freccia giù	Unità ON Decremento valore o scorrimento menu Accensione/ Spegnimento unità		
Sbrinatorio	Attivo/ Disattivazione		In attesa/ Attivazione
Ciclo continuo	Attivo/ Disattivazione		In attesa/ Attivazione
Luci	Attivo/ Disattivazione		Attivazione
Compressore	Attivo		In attesa
Ventilatore evaporatore	Attivo		
Orologio	Programmazione oraria attiva		
HACCP	Presenza allarmi HACCP		
°C	Unità di misura °C		
°F	Unità di misura °F		
Assistenza Manutenzione	Presenza allarmi		

La tabella si riferisce alla configurazione standard di prodotto con tasti retroilluminati.

Schermate

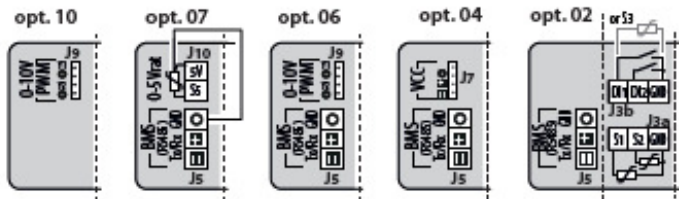
Terminale	Stato	Descrizione
	A riposo	Il display mostra la grandezza principale alternata ad eventuali allarmi e segnalazioni
	Visualizzazione carichi attivi	Il terminale mostra gli eventuali carichi attivi, la tastiera è bloccata
	Attivazione diretta carichi e funzioni da tastiera	Da tastiera è possibile attivare o disattivare i carichi ed accedere alle funzionalità dirette
	Menu programmazione	Scorrimento del menu di programmazione mediante i tasti freccia
	Programmazione parametri/ visualizzazione valori	Modifica dei parametri mediante i tasti freccia o visualizzazione dei valori di sola lettura
	Connessione Bluetooth	Il display è disabilitato in quanto il controllo è collegato ad una APP tramite Bluetooth Low Energy

Navigazione

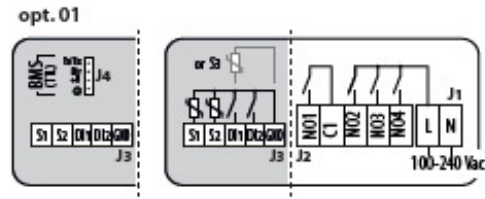
Vedere Fig. 1

COLLEGAMENTI ELETTRICI / ELECTRICAL CONNECTIONS

Model with 3x2 poles input terminals



Model with 5x1 poles input terminals



ITA ENG

PERICOLO

- Questo foglio è parte del prodotto e deve essere conservato insieme al controllo per una rapida consultazione.
- Il controllo non deve essere usato per scopi diversi da quelli per cui è stato progettato, ovvero il controllo di unità frigorifere stand alone, in particolare non può essere usato come dispositivo di sicurezza.
- In caso di guasto contattare un centro assistenza autorizzato.
- Il controllo non deve essere aperto.
- Verificare la tensione di alimentazione prima dell'installazione.
- Utilizzare il controllo all'interno delle condizioni di funzionamento. Non esporre a liquidi o vapori ed evitare bruschi sbalzi di temperatura che potrebbero causare la formazione di condensa.
- Scollegare la tensione di alimentazione prima di effettuare qualsiasi operazione di manutenzione.
- Prestare attenzione alle correnti massime erogabili dai relè (vedere la sezione "Caratteristiche tecniche").
- Non applicare tensioni pericolose ai morsetti SELV (vedere la sezione "Caratteristiche tecniche").
- Utilizzare solamente cavi di sezione appropriata (vedere la sezione "Caratteristiche tecniche").
- Separare i cavi delle sonde e degli ingressi digitali dai cavi delle uscite e dai cavi di alimentazione. Non inserire mai cavi di potenza e cavi di segnale nella stessa condotta.
- Per alcuni modelli è disponibile la funzione di protezione da sotto e sovra tensioni di alimentazione (H-LVP). L'accuratezza della lettura della tensione di alimentazione è di $\pm 5\%$. L-HVP non può essere considerata una funzione di protezione del compressore. Utilizzare il controllo al di fuori delle tensioni di alimentazione riportate in questo foglio è responsabilità del cliente finale. Per la comunicazione seriale, non connettere GND to PE (messa a terra), è obbligatorio un convertitore optoisolato.

ATTENZIONE: le apparecchiature elettriche devono essere installate, usate e riparate solo da personale qualificato.

AVVERTENZE IMPORTANTI



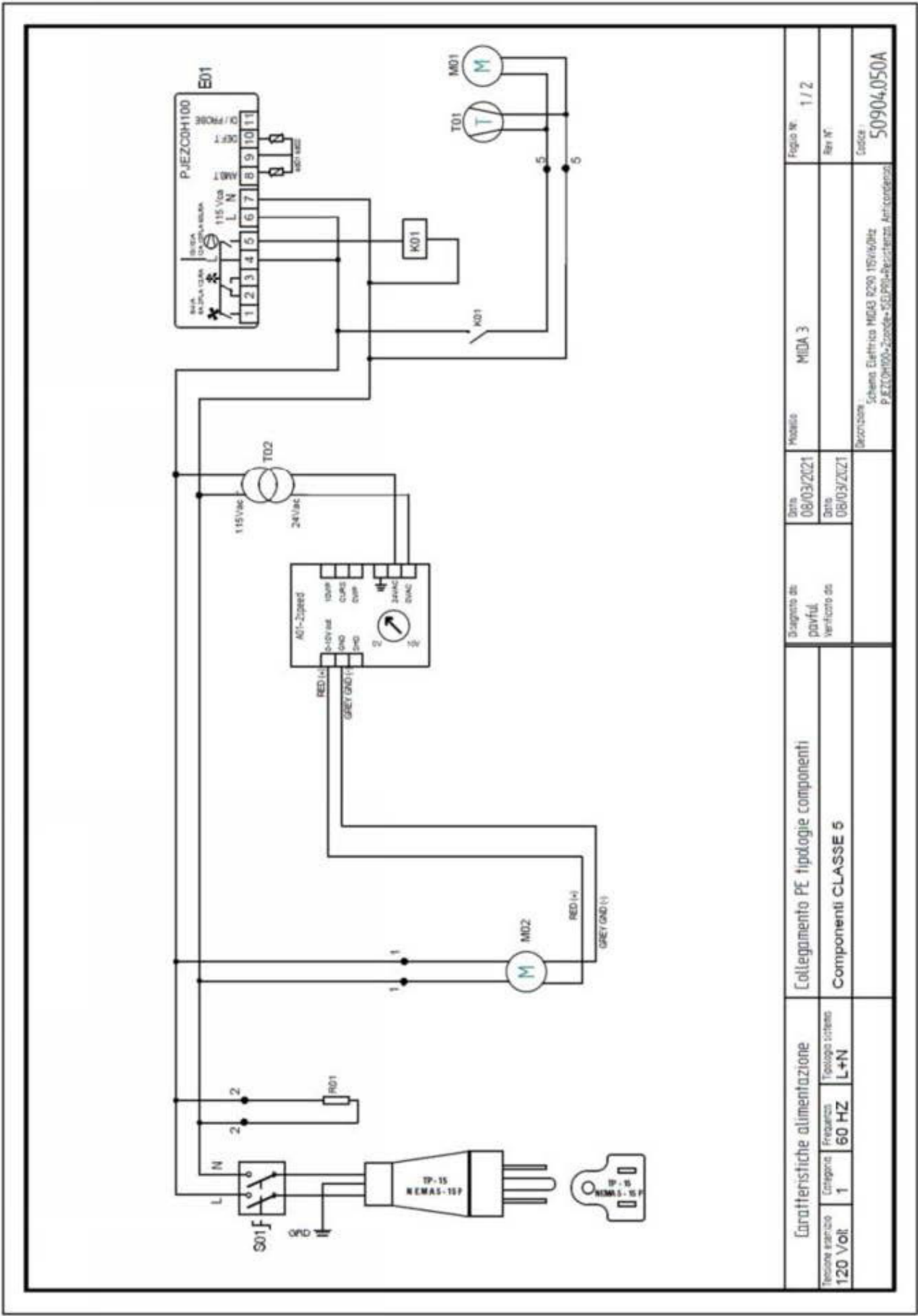
Il prodotto CAREL è un prodotto avanzato, il cui funzionamento è specificato nella documentazione tecnica fornita col prodotto o scaricabile, anche anteriormente all'acquisto, dal sito internet www.carel.com. Il cliente (costruttore, progettista o installatore dell'equipaggiamento finale) si assume ogni responsabilità e rischio in relazione alla fase di configurazione del prodotto per il raggiungimento dei risultati previsti in relazione all'installazione e/o equipaggiamento finale specifico. La mancanza di tale fase di studio, la quale è richiesta/indicata nel manuale d'uso, può generare malfunzionamenti nei prodotti finali di cui CAREL non potrà essere ritenuta responsabile. Il cliente finale deve usare il prodotto solo nelle modalità descritte nella documentazione relativa al prodotto stesso. La responsabilità di CAREL in relazione al proprio prodotto è regolata dalle condizioni generali di contratto CAREL editate nel sito www.carel.com e/o da specifici accordi con i clienti.

CARATTERISTICHE TECNICHE

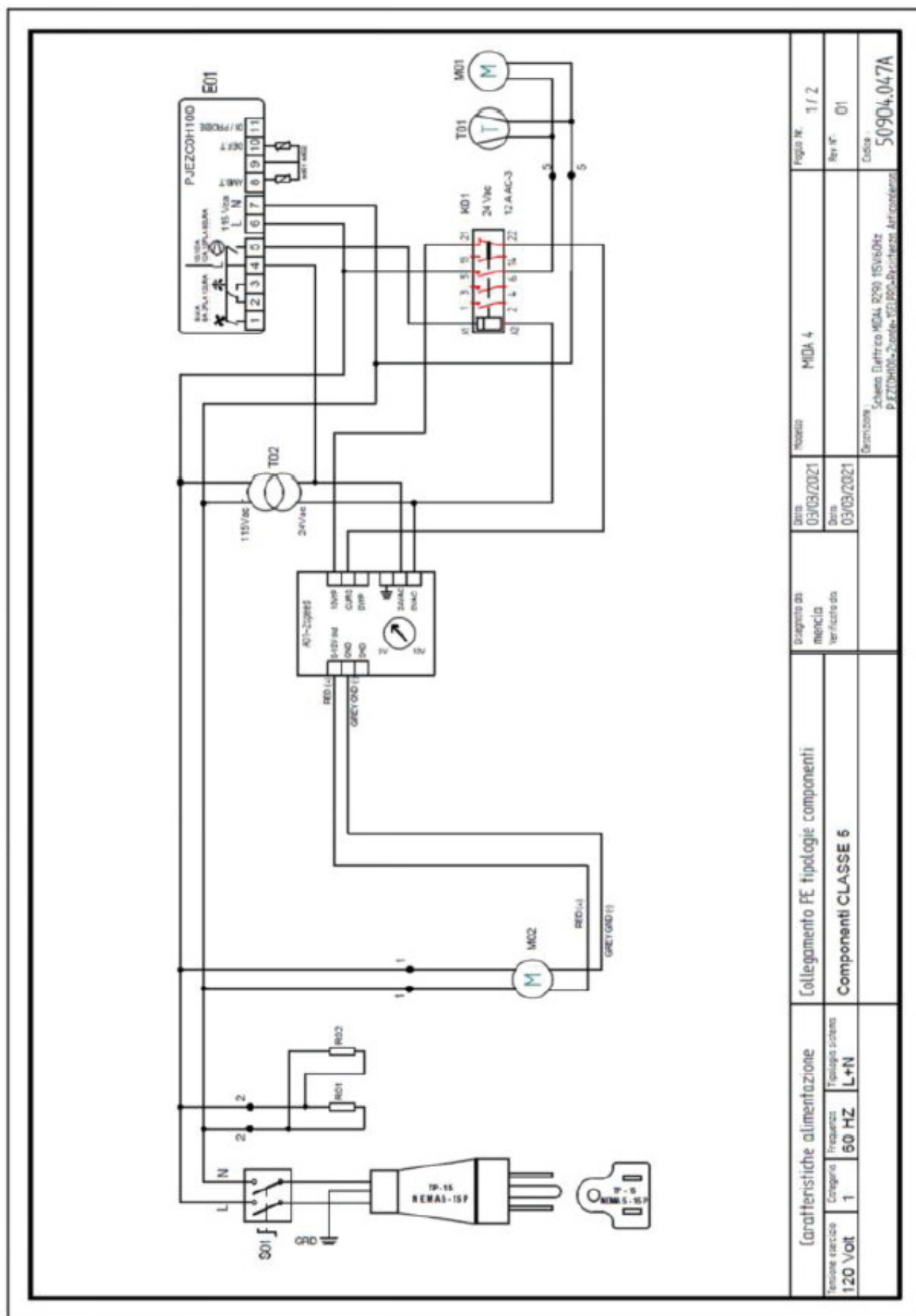
Caratteristiche	Contenitore	Polycarbonato autoestinguente
meccaniche	Temperatura di prova con la sfera	125 °C
	Grado di protezione	EC • Retro: IP20 • Fronte: IP65 UL: Tipo 1
Condizioni ambientali	Pulizia frontale	Utilizzare panno morbido non abrasivo, detergenti neutri o acqua
	Temperatura di funzionamento	-20T60 °C, <90% U.R. non condensante
Caratteristiche elettriche	Temperatura di immagazzinamento	-40T80 °C, <90% U.R. non condensante; -20T80 °C, <90% U.R. non condensante per modelli con batteria
	Tensione di alimentazione nominale	100-240 Vac
	Tensione di alimentazione operativa	90-264 Vac
	Frequenza d'ingresso	50/60 Hz
	Corrente di ingresso massima	100 mA rms
	Potenza assorbita min	200 mW
	Orologio	Precisione: 20 ppm a 25 °C; 100 ppm nel range di temperatura -20T60 °C. Conservazione data/ora con controllo spento fino a 2 anni per modelli con batteria (-20T60 °C).
	Classe e struttura del software	A
	Grado di inquinamento ambientale	2
	Classificazione secondo la protezione da scosse elettriche	Incorporabile in apparecchi di classe I o II
	Tipo di azione e disconnessione	1 C
	Tensione di impulso nominale	ingresso 100-240 Vac e uscita relè 2,5 kV
	Cat. immunità alle sovratensioni	Ingresso 100-240 Vac e uscite relè: II
	Costruzione dispositivo di comando	Dispositivo da incorporare

Caratteristiche elettriche	Morsetteria	NO1, C1, NO2, NO3, NO4, L, N: • Maschio-femmina estraibili 30x12 AWG / 0,05x3,3 mm² • Morsetti a vite 30x14 AWG / 0,05x2 mm² • Connettori Fast-on S1, S2, S3, DI1, DI2, GND: • Maschio-femmina estraibili 30x17 AWG / 0,05x1 mm² • Morsetti a vite 30x17 AWG / 0,05x1 mm² BMS, 0-5 Vdc: • Maschio-femmina estraibili 30x17 AWG / 0,05x1 mm² FieldBus, 0-10V PWM • Connettore JST ZH 32x26 AWG / 0,03x0,13 mm²
	Scopo del controllo	Dispositivo di comando elettrico
Interfaccia utente	Buzzer	Integrato
	Display	3 digit, punto decimale e icone polifunzionali
Connettività	Tastiera	Max 6 tasti
	NFC	Max distanza 10 mm, variabile secondo il dispositivo mobile utilizzato
	Bluetooth Low Energy (opz.)	Max distanza 10 m, variabile secondo il dispositivo mobile utilizzato
	Interfaccia seriale BMS (opz.)	RS485, non optoisolata
	Interfaccia seriale FieldBUS (opz.)	RS485, non optoisolata, numero massimo di dispositivi collegabili: 20
	Interfaccia seriale TTL (opz.)	Non optoisolata, alimentazione 3,3 V, numero massimo di dispositivi collegabili: 1
Ingressi analogici (Lmax=10m)	S1, S2, S3: NTC/NTC-HT/NTC-LT/PT1000V PTC	NTC: risoluzione 0,1 °C; 10 kΩ@25 °C; beta 3435; errore: ± 1 °C nell'intervallo -50T50 °C; ± 3 °C nell'intervallo 50T90 °C NTC-HT: risoluzione 0,1 °C; 50 kΩ@25 °C; beta 3977; errore: $\pm 1,5$ °C nell'intervallo -15T115 °C; ± 4 °C negli intervalli -40T-15 °C e 115T150 °C NTC-LT: risoluzione 0,1 °C; 750 kΩ@25 °C; beta 3969; errore: $\pm 1,5$ °C nell'intervallo -20T110 °C; ± 4 °C negli intervalli -80T-20 °C e 10T55 °C PT1000: risoluzione 0,1 °C; 1 kΩ@0 °C; errore: $\pm 1,5$ °C nell'intervallo -60T120 °C PTC: risoluzione 0,1 °C; 985 Ω@25 °C; errore: ± 2 °C nell'intervallo -50T50 °C; ± 4 °C nell'intervallo 50T150 °C
	S5: 0...5 Vdc (opz.)	0...5 Vdc; errore 2% fs, tipico 1%
Ingressi digitali	DI1, DI2 configurabili come ingressi digitali veloci	Contatto pulito: non optoisolato corrente di chiusura 5 mA tipica tensione contatto aperto 12 V resistenza contatto max 50 Ω. Ingressi digitali veloci: 0-2 kHz, errore 2% fs, tipico 1%
	Y1, Y2, configurabili indipendentemente come uscite DC o PWM (opz.)	0...10 V; 1 kΩ, 10 mA max PWM: 100 Hz, ampiezza max 10 V, 10 mA max
Uscite analogiche	NO1, NO2, NO3, NO4	NO1 (2 hp): EN60730: 10(6) A, 250 Vac; UL60730: 16A, 250 Vac; 8FLA, 48LRA, 250 Vac; Pilot duty B300, 250 Vac NO2 (8 A): EN60730: 8(3) A, 240 Vac; UL60730: 8A, 240 Vac; 2FLA, 12LRA, 240 Vac; Pilot duty C300, 240 Vac NO3, NO4 (5 A): EN60730: 5(1) A, 240 Vac; UL60730: 5A, 240 Vac; 1FLA, 6LRA, 240 Vac; Pilot duty C300, 240 Vac
	Nota: Con terminali a vite o removibili: • NO1: max 12 A; • NO2+NO3+NO4: max 12 A Con terminali fast-on: • NO1: max 14 A; • NO2+NO3+NO4: max 14 A	
Alimentazioni sonde	5V	5 Vdc $\pm 2\%$ per l'alimentazione delle sonde raziometriche 0...5 V. Corrente massima erogabile: 10 mA
Lunghezze cavi	Ingressi/uscite analogici, ingressi/uscite digitali, alimentazione sonde	< 10 m
Conformità	Serie BMS e Fieldbus	< 500 m con cavo schermato
	Serie TTL	< 2 m
	Conformità sicurezza elettrica - direttiva LVD e certificazione UL	IEC/EN/UL 60730-1, CSA E60730-1, IEC 60335-1 (sezioni 29 e 30)
	Compatibilità elettromagnetica - Direttiva EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4
	Per l'uso con gas refrigeranti infiammabili, i controlli descritti in questo documento sono stati valutati e giudicati conformi ai seguenti requisiti degli standard della serie IEC 60335:	

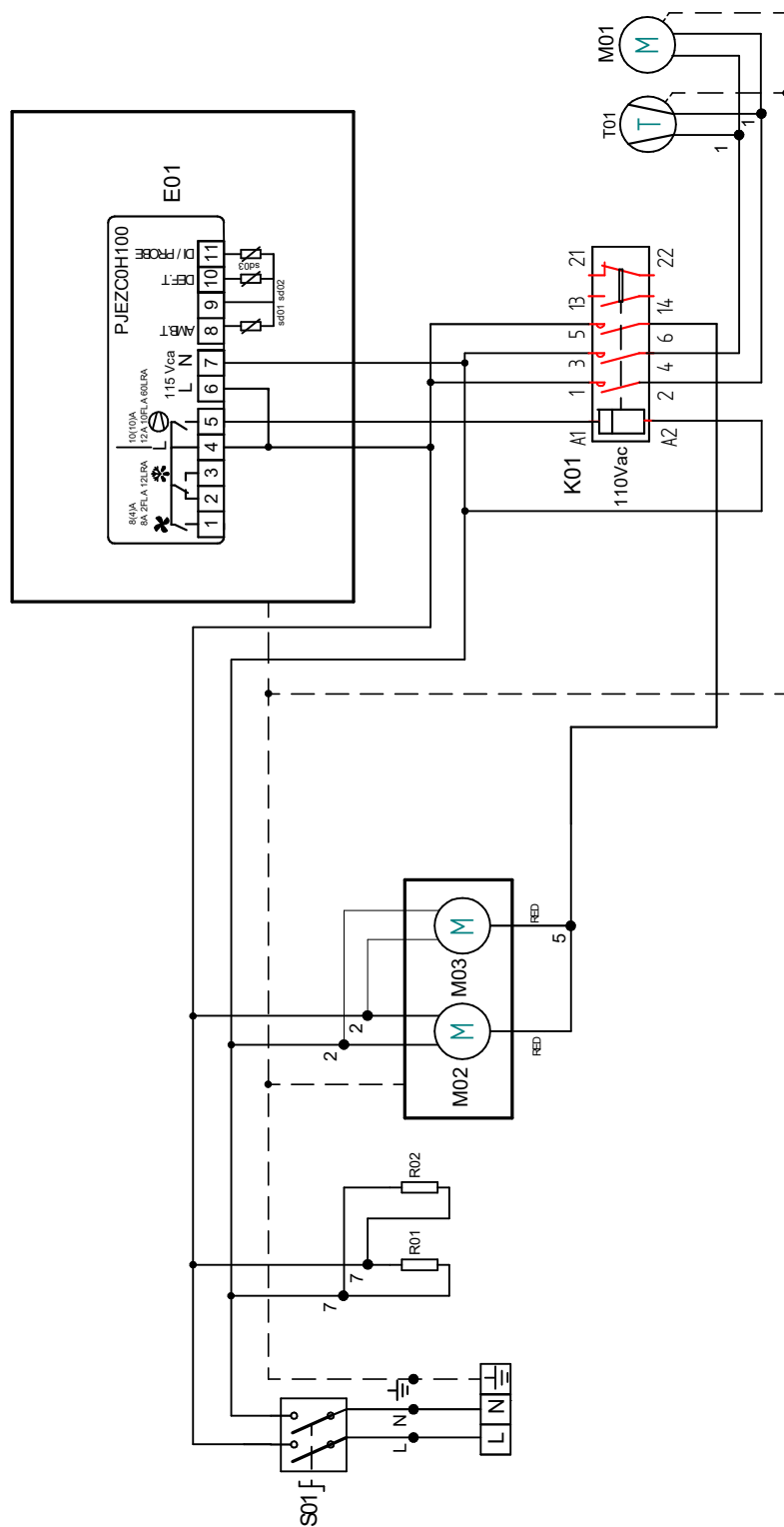
MIDA-3X3 WIRING DIAGRAM



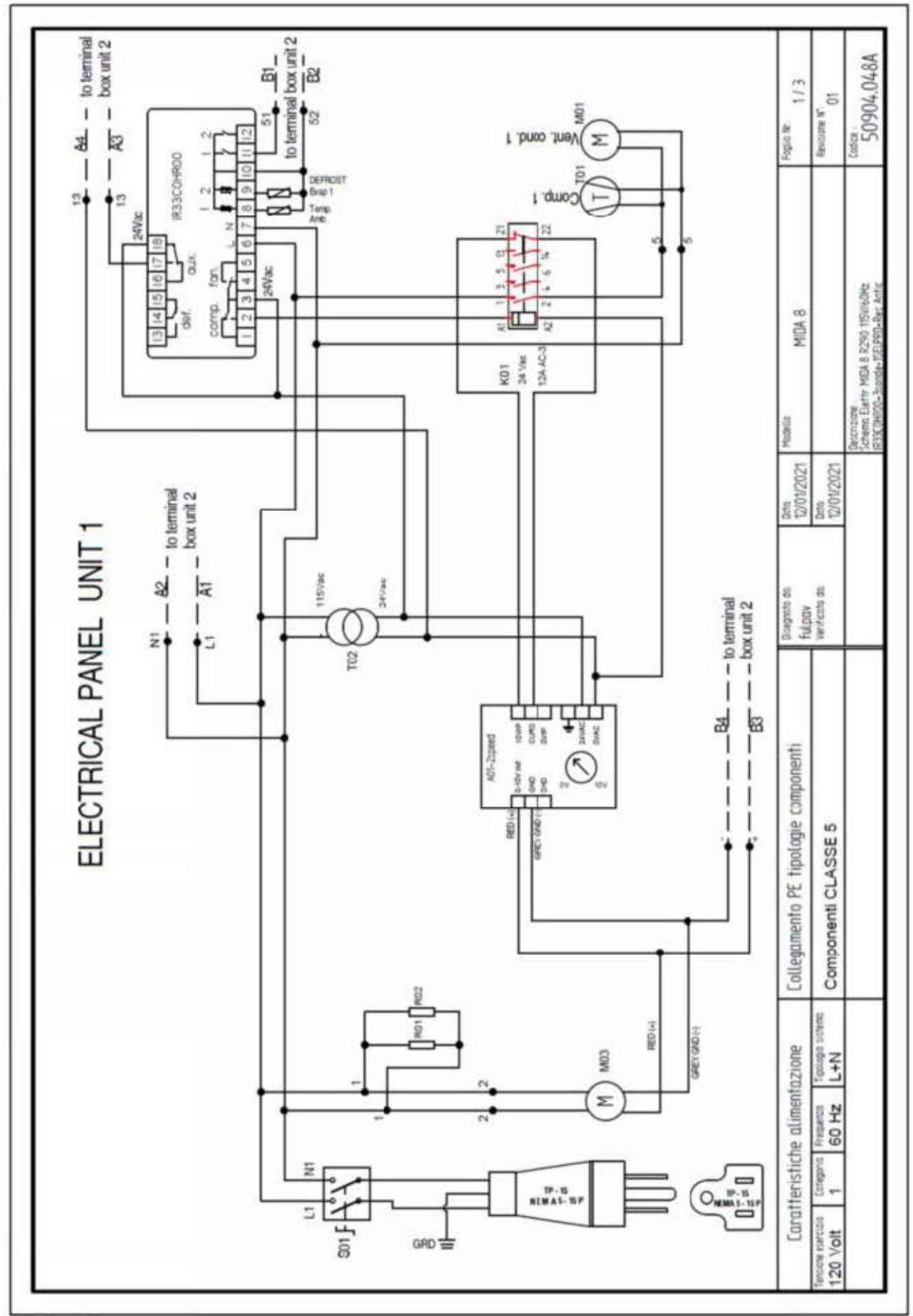
MIDA-4X4 WIRING DIAGRAM ("C" SERIAL NUMBER)



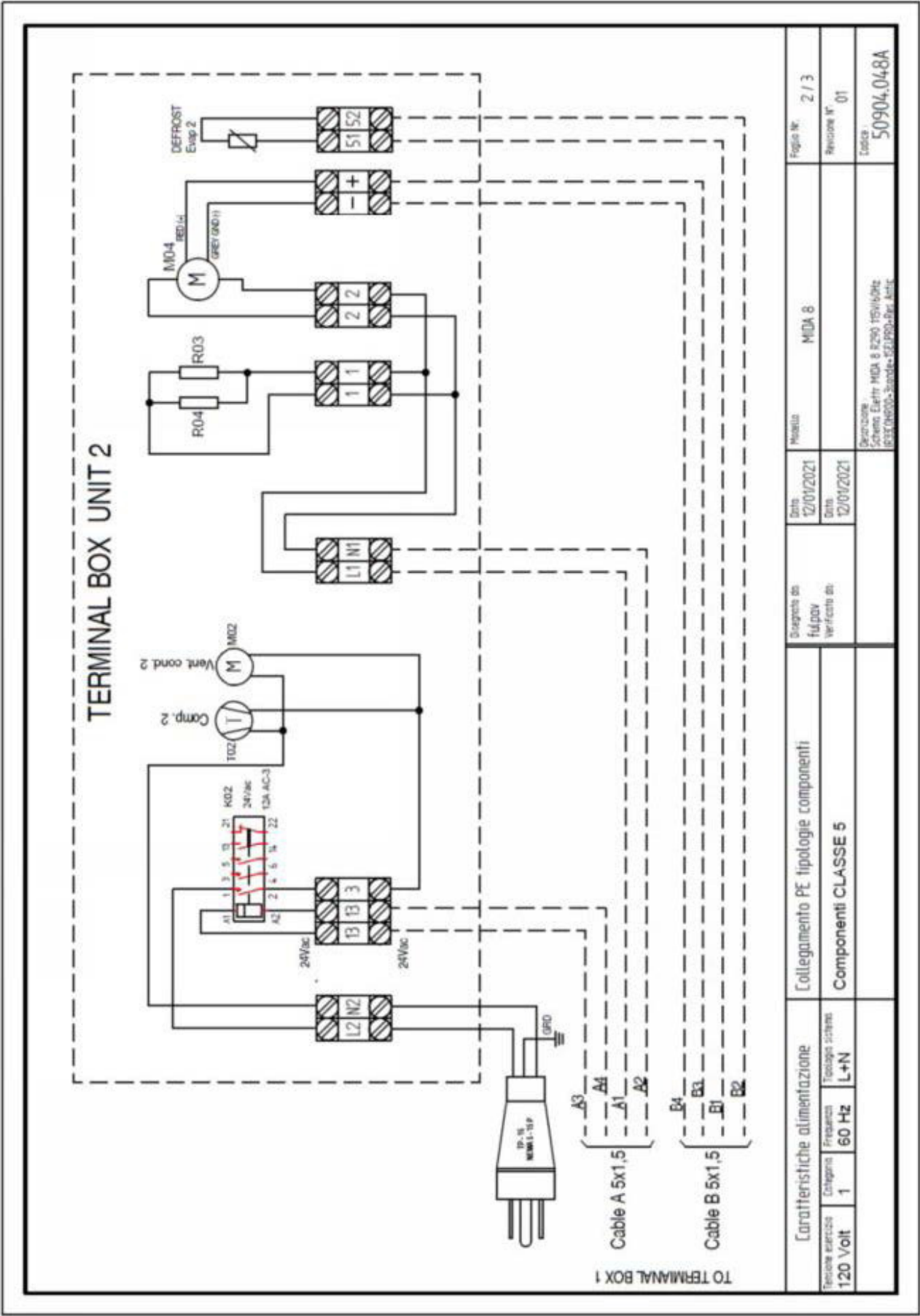
MIDA-4X4 WIRING DIAGRAM ("D" SERIAL NUMBER)

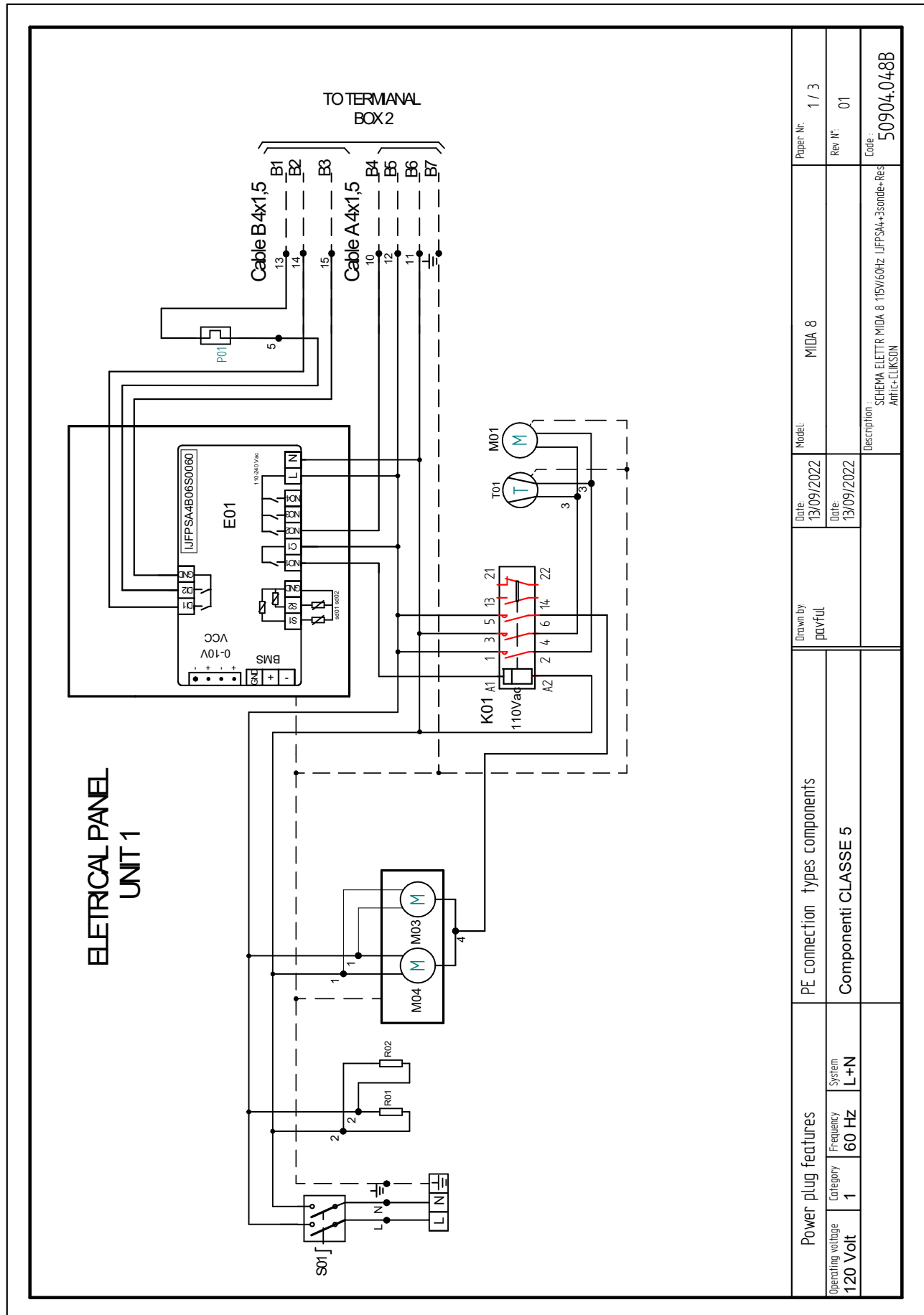


Power plug features			Drawn by: pavful	Date: 16.05.2022	Model: MIDA 4	Paper N°: 1 / 3
Operating voltage 120 Volt	Category 1	Frequency 60 HZ				
	System L+N					
PE connection types components				Date: 16.05.2022		Rev N°: 01
Component CLASS 5						
					Description Wiring Diagram MIDA4 R290 115V/60Hz PIEZCOH100-2probe+1SELPRO+AntiFogging Resistors	Code : 50904.047B

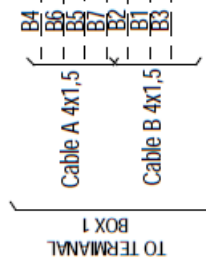


MIDA-4X8 WIRING DIAGRAM ("C" SERIAL NUMBER)





Power plug features			PE connection types components		Date 13/09/2022	Model MIDA 8	Paper Nr. 1 / 3
Operating voltage 120 Volt	Category 1	Frequency 60 Hz	System L+N	Componenti CLASSE 5			
Description SCHEMA ELETR MIDA 8 115V/60Hz LJFPS4+3conde-Res AMTIC-ELIKSON					Date 13/09/2022	Rev N° 01	Code 50904.048B



Power plug features	PE connection types components				Drawn by: pavful	Date: 13/09/2022	Models: MIDA 8	Paper Nr. 2 / 3
	Operating voltage 120 Volt	Category 1	Frequency 60 Hz	System L+N				
	Componenti CLASSE 5							
						Date: 13/09/2022	Rev. N°: 01	
						Description : SCHEMA ELETTR MIDA 8 115V60Hz IJFFS4u-3sonde+Red Anti-r-CLINSON		Code : 50904.048B

CONTROLLER SET POINT FACTORY SETTINGS (°F)

PROBE PARAMETERS		DEFAULT	ACTUAL
/5	Select °C/°F	0	1
/6	Disable decimal point	0	1
/C	Probe Calibration	0	0
ALARM PARAMETERS		DEFAULT	ACTUAL
AL	Low Temperature Alarm Threshold/Deviation	0	0
AH	High Temperature Alarm Threshold/Deviation	0	0
A4	Digital input configuration	10	10
Ac	High Condenser Temperature Alarm	60	140
AE	High Condenser Temperature Alarm Differential	5	4
Acd	High condenser temperature alarm delay [min]	0	5
Ad	Low and high temperature alarm delay	0	5
FAN PARAMETERS		DEFAULT	ACTUAL
F0	Fan Management	0	0
F1	Fan Shutdown Temperature	5	60
F2	Fans Off When Compressor Off	1	0
F3	Fans Status During Defrost	1	0
Fd	Off for Post-Dripping Active for Each val. of F0 [min]	1	0

Warning Maintenance & Case Care

When cleaning cases the following must be performed PRIOR to cleaning:

To avoid electrical shock, be sure all electric power is turned off before cleaning. In some installations, more than one switch may have to be turned off to completely de-energize the case.

Do not spray cleaning solution or water directly on fan motors or any electrical connections.

All lighting receptacles must be dried off prior to insertion and re-energizing the lighting circuit.

Please refer to the Use and Maintenance section of this installation manual.



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Hill PHOENIX, Inc.

Hereinafter Referred To As Manufacturer

LIMITED WARRANTY

GENERAL WARRANTY

Manufacturer's products are warranted to be free from defects in materials and workmanship under normal use and maintenance for fourteen months from date of shipment from manufacturer (the "Base Warranty Period"). In the event of a qualifying warranty claim, a new or rebuilt part to replace any defective part will be provided without charge. The replacement part is covered under this warranty for the remainder of the applicable Base Warranty Period. In order to be eligible for warranty coverage, customer must: (i) notify Manufacturer promptly upon discovery of a warrant defect, and (ii) comply with the warranty claim procedures provided by Manufacturer from time to time.

This equipment warranty does not include labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

The warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, or which has not been operated in accordance with the manufacturer's recommendations, or in conditions outside of Manufacturer's specifications, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. To products that are impaired or damaged due to improper installation.
4. When installation and startup forms are not properly completed or returned within two weeks after startup.
5. If the defective part is not returned to the Manufacturer.
6. To service, maintenance or wear and tear parts (such as lights, starters and ballasts)

MODIFICATIONS TO GENERAL WARRANTY

The following sets forth certain modifications to the General Warranty for specific products of Manufacturer:

DISPLAY CASE AND SPECIALTY PRODUCTS CLEARVOYANT® LED LIGHTING

The warranty period for Clearvoyant LED lighting components within the Clearvoyant lighting system is five years from date of shipment.

REMEDY LIMITATION/DAMAGES EXCLUSION

THE REMEDY OF REPAIR OR PROVISION OF A REPLACEMENT PART WITHOUT CHARGE SHALL BE THE EXCLUSIVE REMEDY FOR ANY WARRANTY CLAIM HEREUNDER. WITHOUT LIMITING THE FOREGOING, MANUFACTURER SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFIT, LABOR COST, LOSS OF REFRIGERANT OR FOOD PRODUCTS.

EXCLUSIVE WARRANTY

THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY WITH RESPECT TO THE PRODUCTS. ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED. NO IMPLIED WARRANTY SHALL BE DEEMED CREATED BY COURSE OF DEALING OR USAGE OF TRADE. NO OTHER PERSON IS AUTHORIZED TO EXPAND OR CREATE ANY OBLIGATION GREATER THAN OR MORE EXPANSIVE THAN THE WARRANTY PROVIDED HEREIN.

Submit warranty claims to:

833-280-5714

Choose option for Warranty or Tech Support
Select Division Per Menu list

<https://www.hillphoenix.com/warrantyauthorization-procedure/>
Select Warranty Request Form (5th image)