

# **POWERSTAR Freezer Truck**

# **User's Manual**



**POWERSTAR TRUCKS INDUSTRY CO., LIMITED**

**<http://www.isuzutruckscn.com/>**

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# Freezer Truck

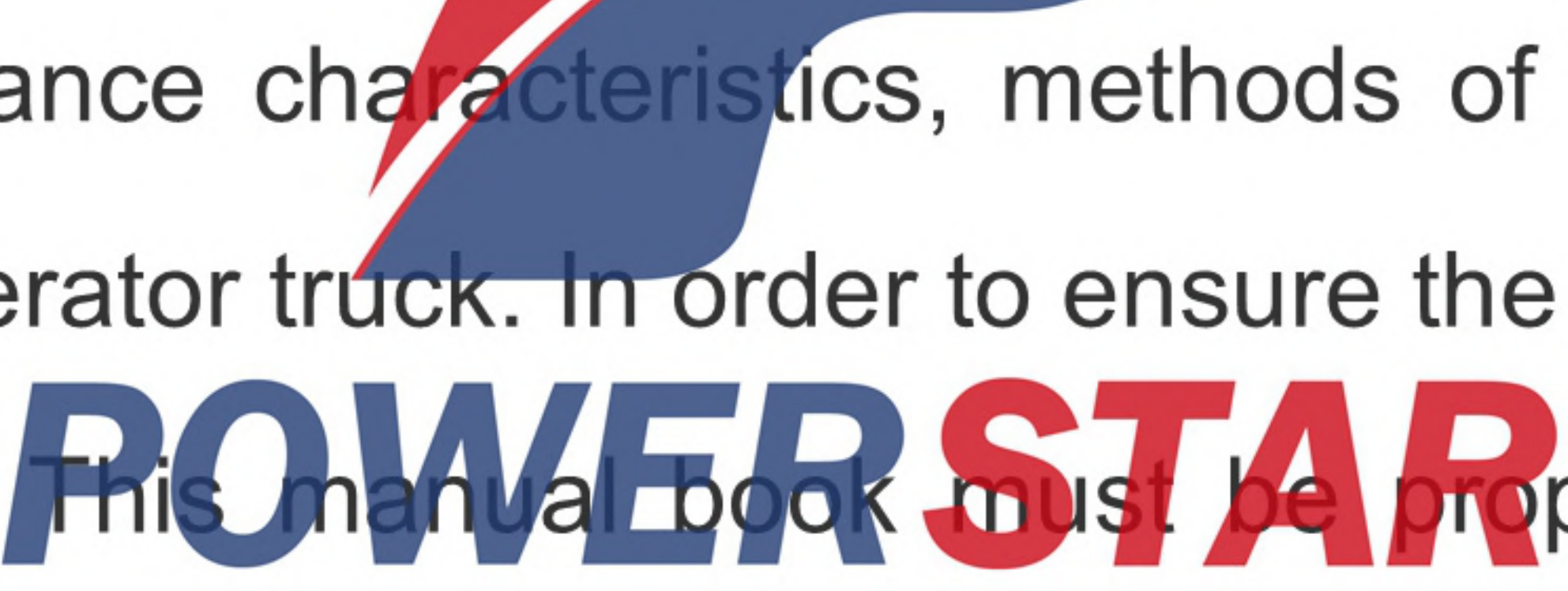


## OWNER'S MANUAL

# Preface

Thank you for purchasing POWERSTAR TRUCKS products. For better using your ISUZU Freezer Truck, get the best operating performance, we strongly suggest that before the operation process you could read this manual instructions carefully, and to manipulate the program handily.

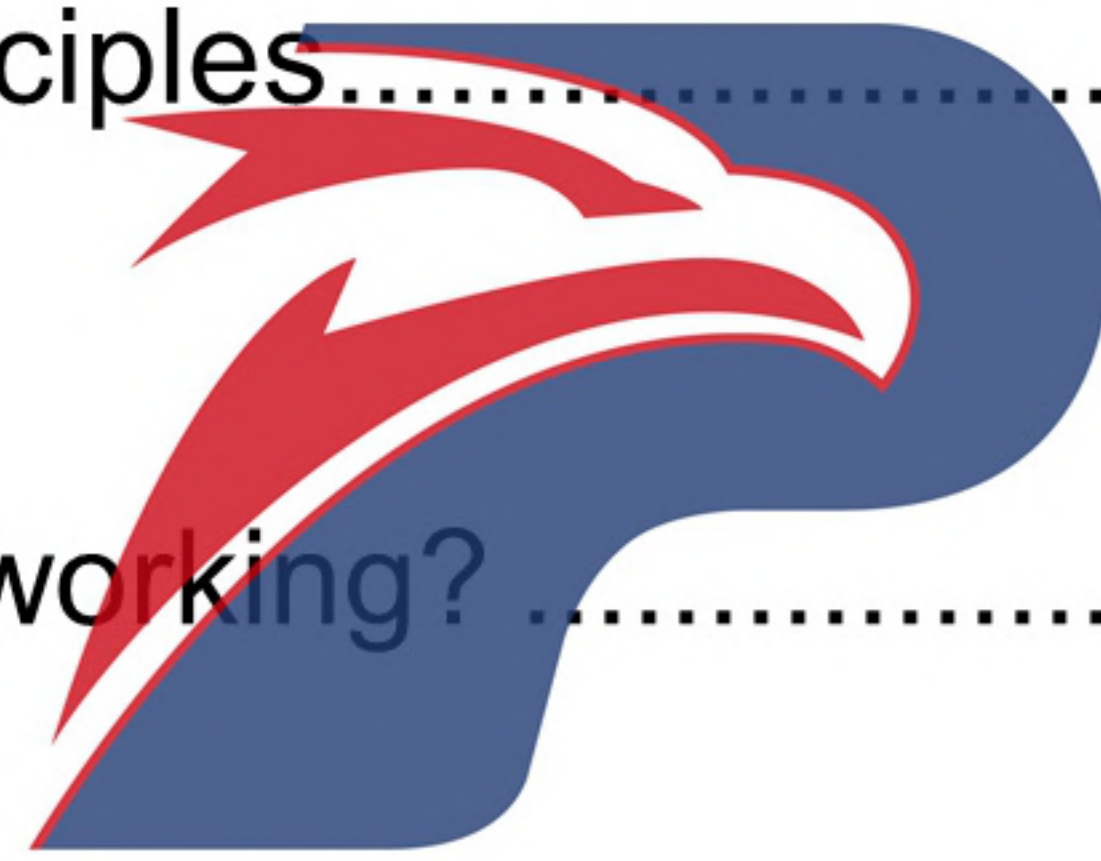
The manual detailed describes the performance of freezer truck, structure, usage, precautions and maintenance of such knowledge. While showing details of the truck, both pictures and description will together help you get better understanding of how to use truck. Before the operation, the skilled operator should carefully read the contents of the manual.

After master the truck performance characteristics, methods of operation and precautions, then could start to operate this refrigerator truck. In order to ensure the staff turnover after the operation, and properly use of the truck.  This manual book must be properly kept, shall not be lost and damage.

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## Chapter 1. General Description

*POWERSTAR TRUCKS Freezer Truck based on type II ISUZU 4\*2 model truck chassis, refrigerator body length could up to 5.5 meters, mainly used to transport frozen or fresh goods, and the working aerial can be villages, downtowns, cities, and other areas of need.*

*The vehicle designed to fully rely on the advantages of the original ISUZU 4\*2 LHD chassis, fully consider the product's convenience and reliability. The freezer body material is international standard, both internal and external use glass fiber reinforced plastics, in the middle use 80mm polyurethane foam, have good effect for warm preservation. Both door lock and hinge use stainless steel casting, which have good performance and long service life. The freezer truck equipped with English guidance control box for easy operation. Inside of body equipped one set movable bulkhead for multifunction usage. And can cover all customers' frozen or fresh goods transportation requirement.*

*The ISUZU 4\*2 Freezer Truck equipped with 5.5m length refrigerator body and famous brand CARRIER independent refrigeration units, cabin control box, whole white painting. Therefore, the vehicle is an ideal Refrigerator Truck mainly used for frozen or fresh goods delivery.*



**(Preview for your ISUZU Freezer Truck)**

## Chapter 2, Main Technical Data

### Basic parameter:

Items		ISUZU Freezer Truck
S I Z E	Outer Dimension (L×W×H) (mm)	7850×2450×3650
	Wheelbase (mm)	4175
Kerb Weight (kg)		5900
G E A R	Gearbox brand	ISUZU
	Model	MLD 6-shift gearbox
	Type	Manual
Cab capacity (includes driver)		2+1
E N G I N	Model	ISUZU 4HK1-TC51
	Type	Four cylinder inline, four stroke, turbocharged Inter-cooling, diesel
	Rating Power (kW/HP)	141 / 190

Note: We keep the right to revise the parameters on the list above.

### Hook Loader Superstructure basic parameter list

Items		Parameter	
Refrigerator Body	Dimension (mm)	5500*2300*2400	
	Material	External	Glass Fiber Reinforced Plastics
		Middle	8mm Polyurethane Foam
		Internal	Glass Fiber Reinforced Plastics
	Door Lock material		Stainless Steel
	Door Hinge material		Stainless Steel
	Door	Rear	STAR Rolling Door
		Side	One Hinged Door with Strip Curtain
Floor		5mm Checker Plate Flooring	
Refrigeration Units	Control Box	Manual Operation Box in Cabin	
	Operation	As Following	
Safety Assurance		Balance valve for safety	

## Chapter 3, Freezer Truck Structure Components

Overviews for ISUZU 4\*2 freezer truck:



Above picture show the freezer truck dimension for reference; the refrigerator body designed based on requirement, with length can be 5 meters. Both rear and side door for easy operation.

Left View: Refrigerator Units, Convenient side door

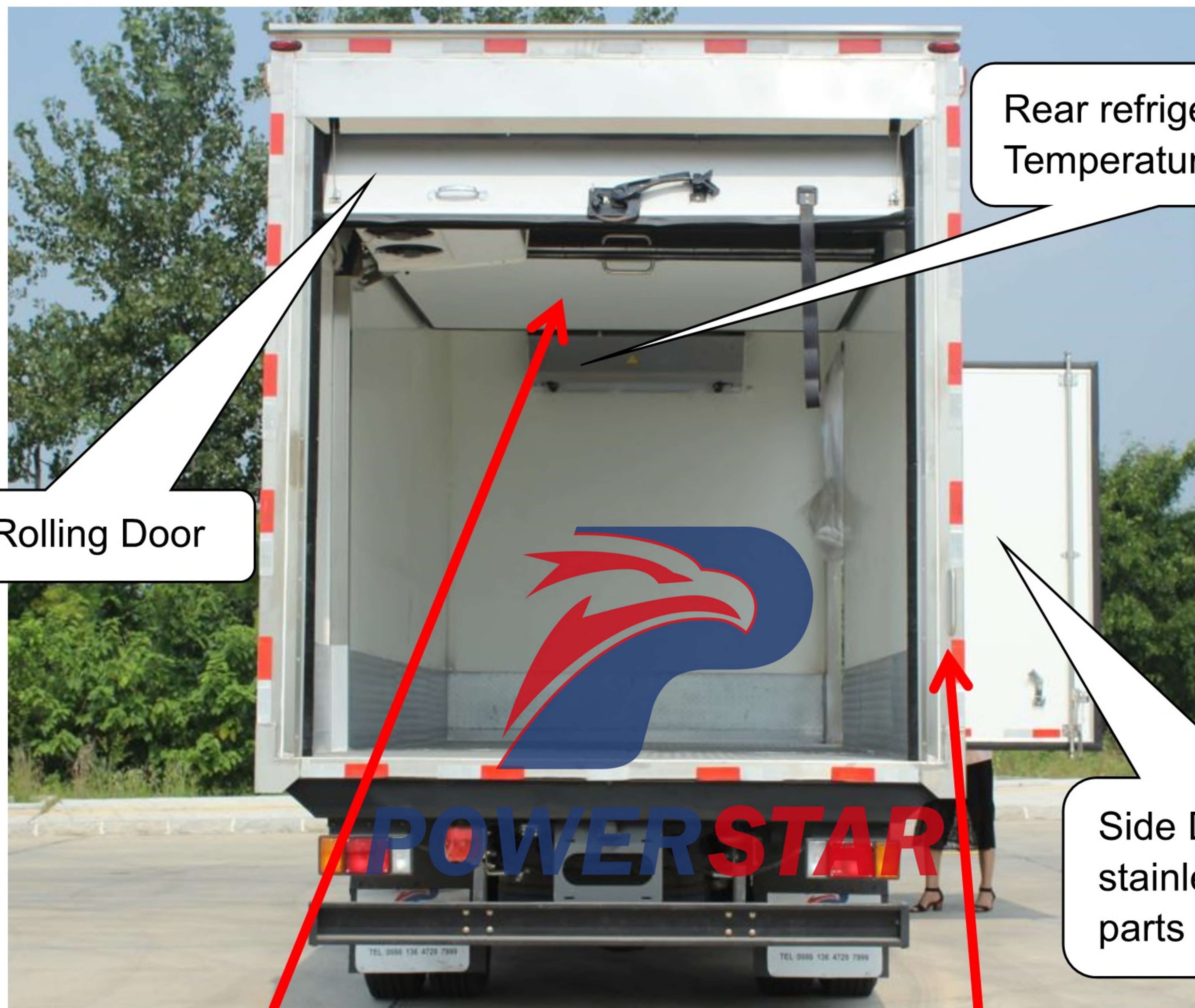


CARRIER SUPRA 850  
Refrigerator Units:  
Independent, and lowest  
temperature could be -18°C

Freezer Body:  
Length 5.5 meter

Side door for  
convenient operation

Rear View: Rear Door and inside body movable bulkhead



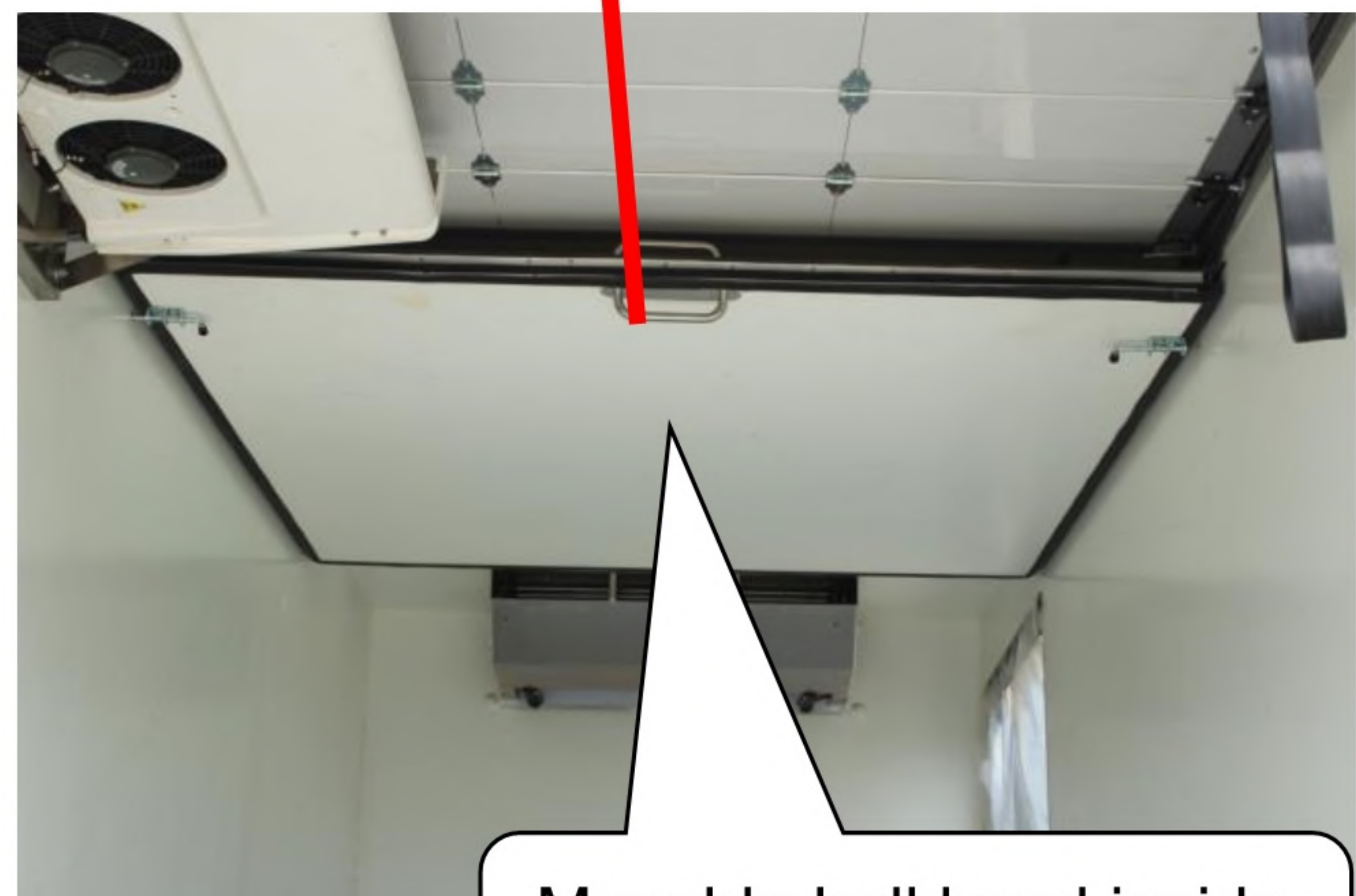
Rear refrigerated unit  
Temperature -18°C

Rear STAR Rolling Door

Side Door, with whole  
stainless steel casting  
parts



Rear refrigerated unit  
Temperature +0 / 8°C



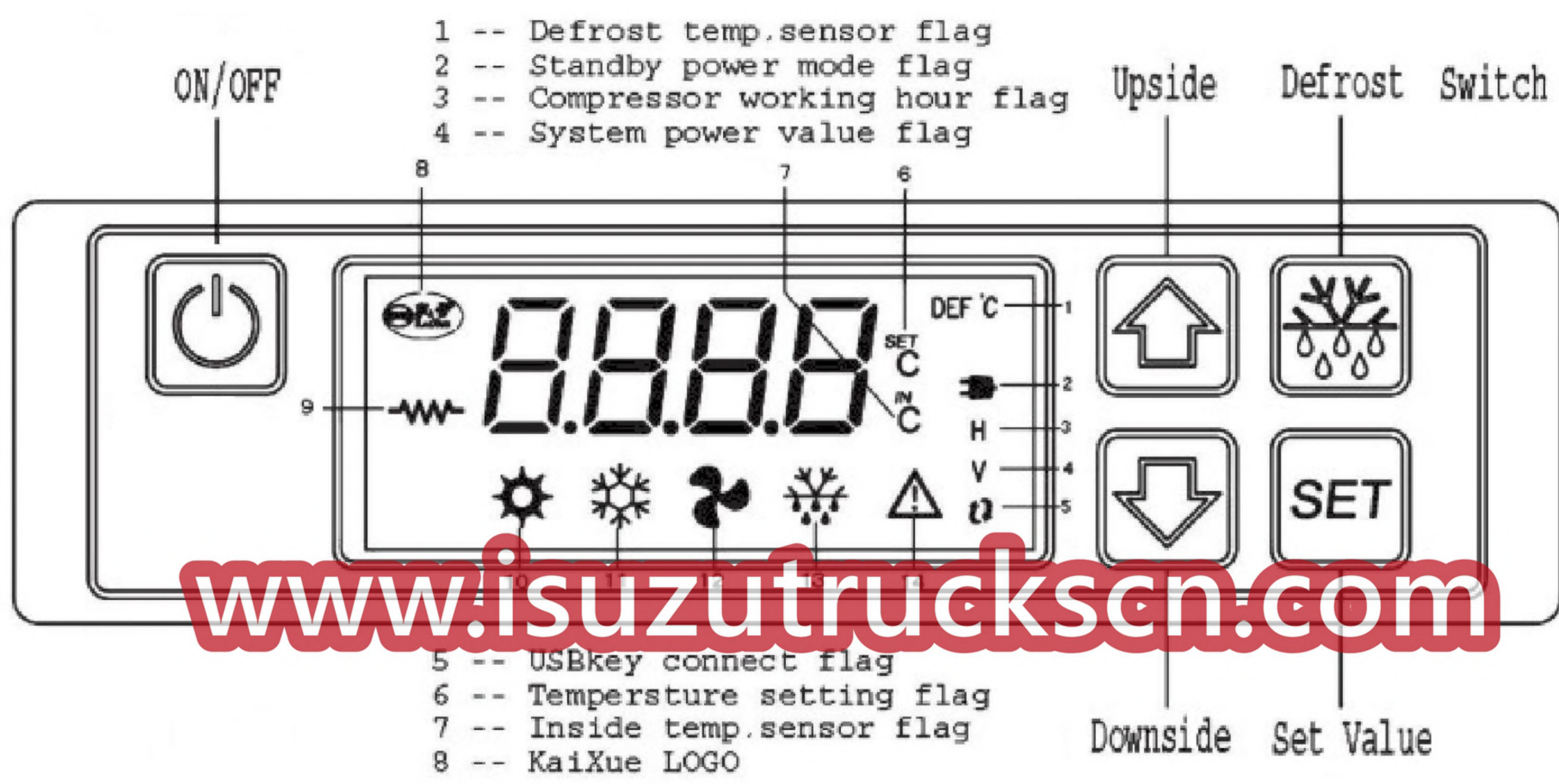
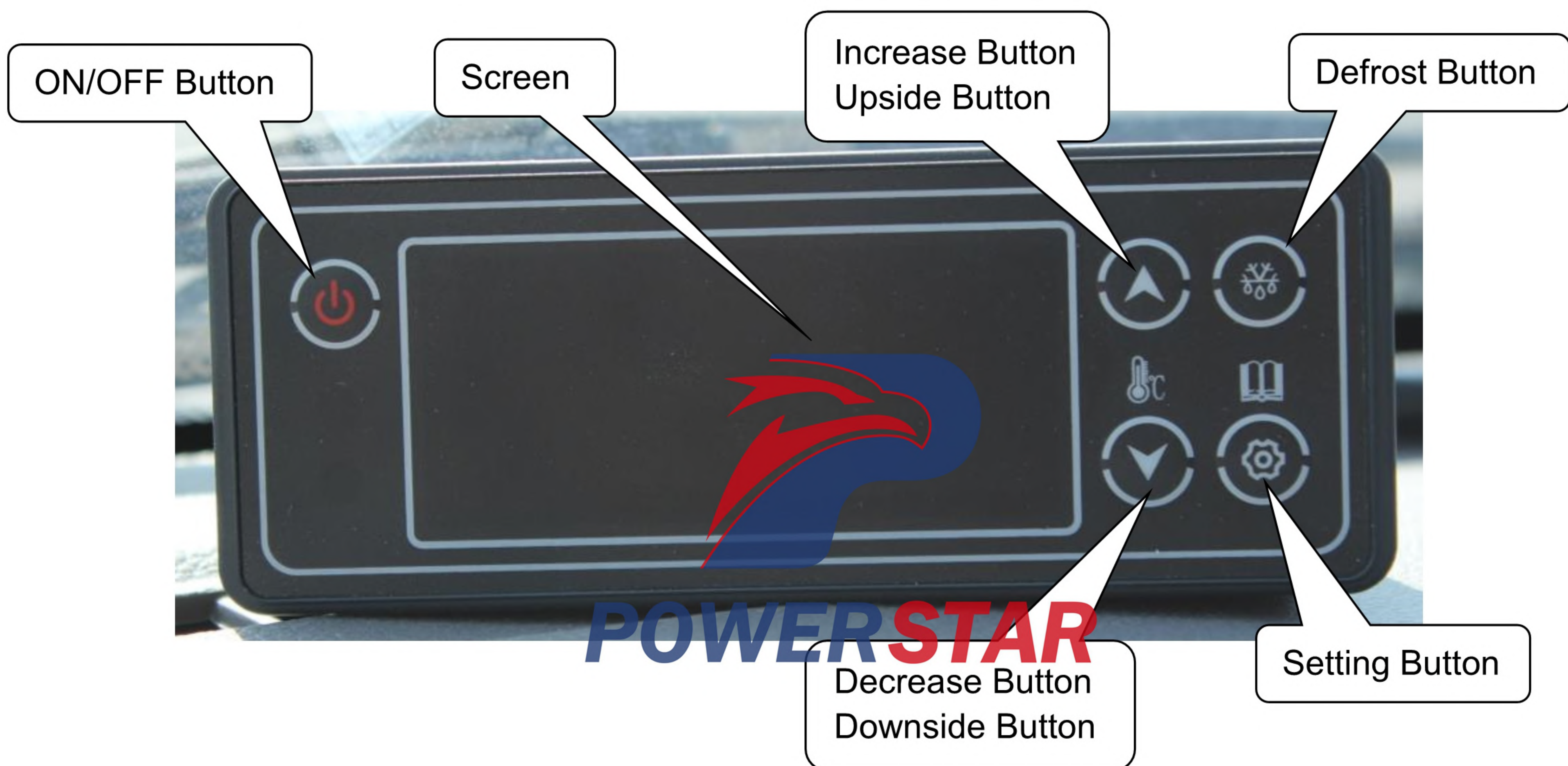
Movable bulkhead inside  
door, with bolt for lock



Rear refrigerated unit  
Control Box

Front refrigerated unit  
Control Box





Right View: Refrigerator Body and external power source



(Socket)



Refrigerated Unit working model one:  
External power source, which can make the freezer truck working without fuel

Refrigerated Unit working model two:  
Fuel pump, transfer fuel to the refrigerated unit engine and make freezer truck working



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## Chapter 4, Freezer Truck Working Principles

*The operator should fully understand Whole Structure and Working Principle for ISUZU 4\*2 Freezer Truck before any operation. Only trained person can operate this vehicle properly and to prevent unnecessary accidents and equipment damage.*

### **i ,How are the Freezer Truck working?**



*The ISUZU 4\*2 Freezer Truck installed independent Carrier Supra 850 refrigerated unit, operate the Control Box in cabin to control the refrigerated unit working, also can use the control box to adjust the temperature in freezer body. Then can be used for frozen and fresh goods transportation.*

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### **ii ,What is the main component for truck?**

*The freezer truck is refitted based on the ISUZU LHD 4\*2 chassis. The refit part includes Refrigerator Units, Freezer Body and Operation System.*

- *Refrigerator Units: Famous Carrier brand, which is used to adjust temperature of the body.*
- *Freezer Body: 5.5 meters long body, with middle movable bulkhead, rear hinged door and side door for easy operation.*
- *Operation system: Control box inside of cabin for easy operation*

### **iii, How to operate freezer trucks?. (Very Important)**

*As for usage, regular maintenance and troubleshooting, please kindly refer to the attached specified Manual.*

## Step 1

Start the truck engine. Press Front Refrigerated Unit Control Box Start Button once to start the whole system.

Waiting for 1~2 minutes till the Carrier system finished self-checking process.

**Firstly**, we can follow the specified manual to operate Front refrigerated unit.



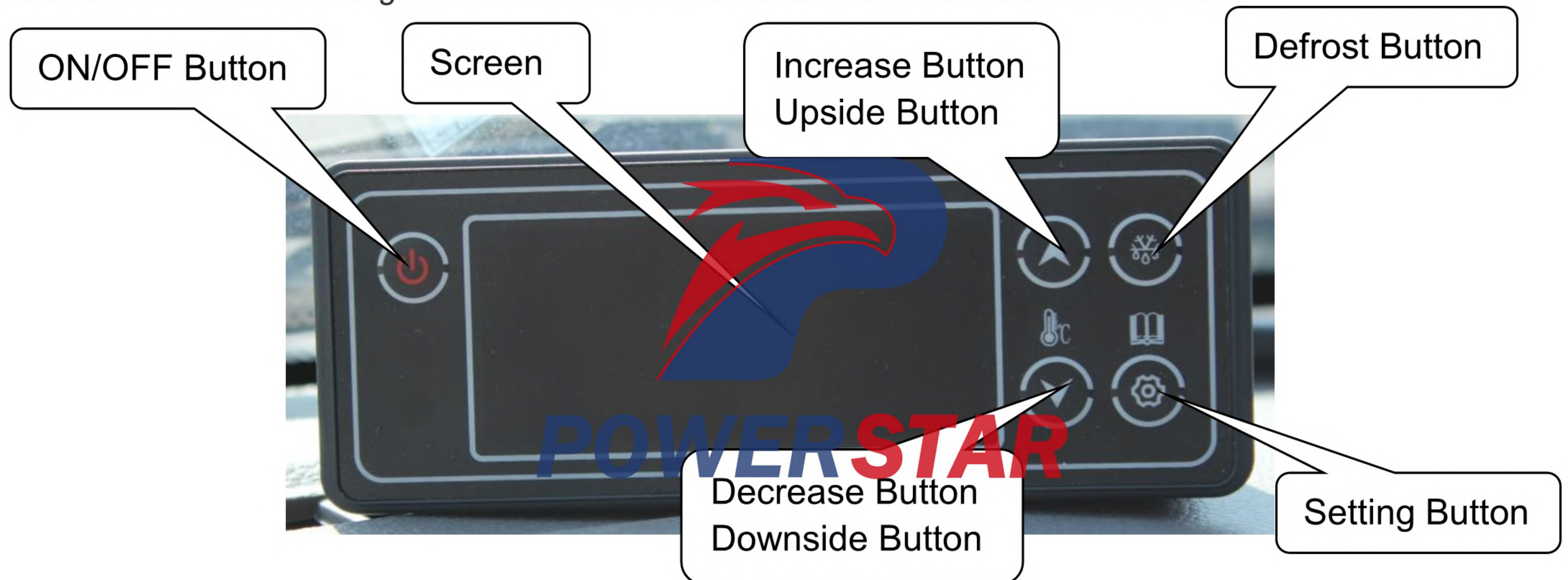
**Secondly**, Operate the Rear Refrigerated Unit Control Box to make Rear refrigerator unit working as required.



**NOTE:** Please note that the equipped is Carrier SUPRA 850 independent unit.

## Step 2

Be familiar with Rear Refrigerated Unit Control Box then can control the Freezer truck.



**ON/OFF Button:** Control the Refrigerator Units ON & OFF

Turn ON Operation → Press once, the refrigerator units start working (Bumming once)

Turn OFF Operation → Press two second, the refrigerator units stop working (Bumming three times)

**Defrost Button:** Control the defrost function

Press two second

Bumming three times → Defrost function start,  indicator is ON

Bumming five times → Defrost function temperature setting not suitable, you need to change the temperature setting.

After amend the temperature setting, and then you can control the defrost function.










**Setting Button / Increase Button (Upside Button) / Decrease Button (Downside Button):** Control the Refrigerator Units Temperature

Setting Button Operation → Press once, the screen show the **Setting Temperature** or **Sensor Temperature** (Basic show)

Temperature Operation → When screen show **Setting Temperature**, press Increase Button and Decrease Button to adjust the temperature.

The system is well set of, only use  and  to set temperature as required!

Indicator introduction:

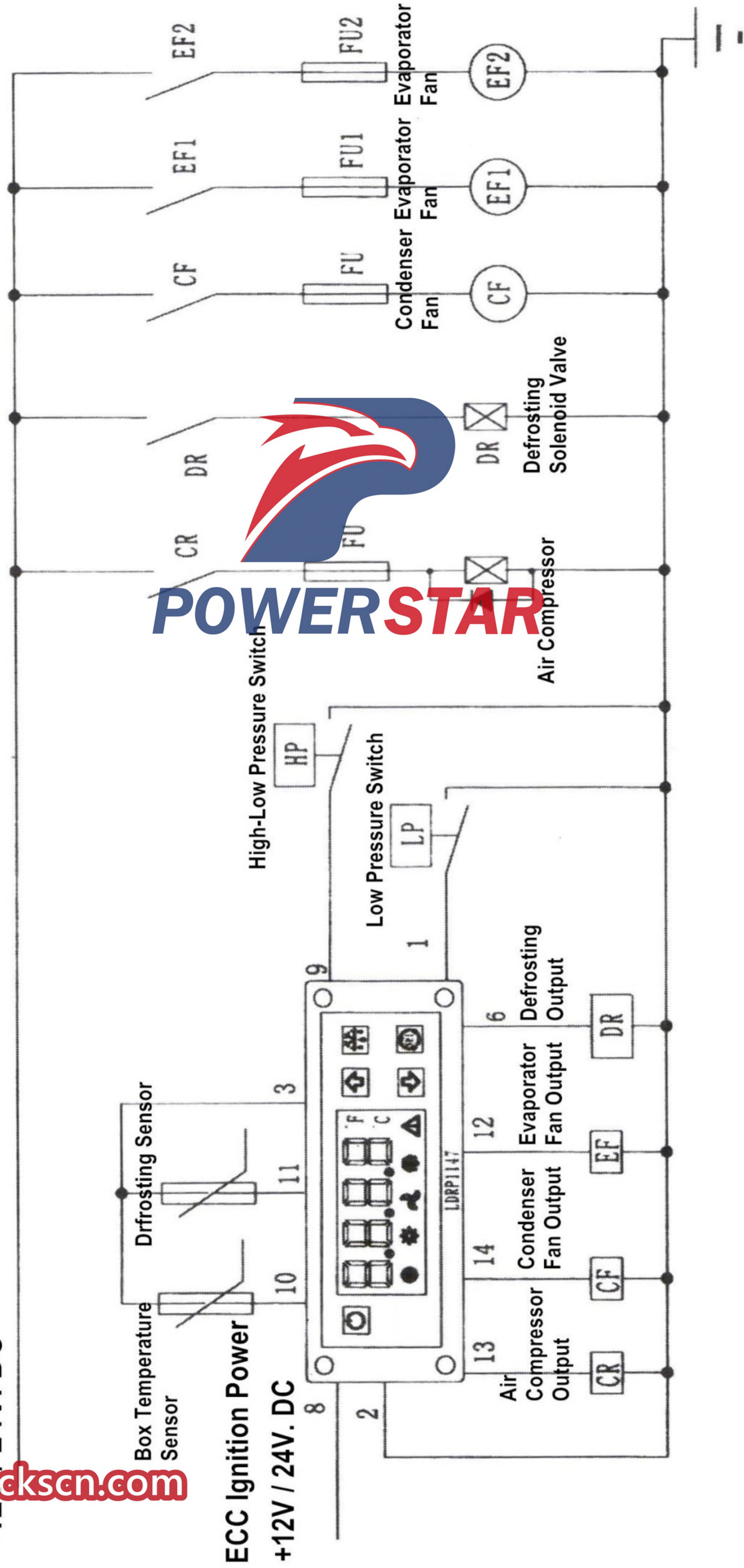
Indicator	Status	Remark
	Yellow Colour	Refrigerator Units standby status, and ready for normal working
	Blue Colour	Refrigerator Units normally working
	Light	Defrosting Working ON
	Twinkle	Defrosting Working OFF
	On	Evaporation Fan start working
	On	Heating Mode
	On	Electrical heating start working
	On	Warning light
	On	Refrigerator Units connected with standby power, and normal working under standby power



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Refrigerator Units Working Principle:

Truck battery  
+12V / 24V. DC  
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Maintenance introduction:

<p>First Time Maintenance</p>	<ul style="list-style-type: none"> <li>➤ Carefully check the tightness of bolts and nuts, and check the Refrigerator Units' installation position ok or not</li> <li>➤ Carefully check if any leakage</li> <li>➤ Carefully check the Compressor revolving speed RPM right or not</li> <li>➤ Carefully check the Compressor belt tension</li> <li>➤ Carefully check the Standby Power bolt tightness</li> <li>➤ Carefully check the Standby Power abrasion</li> </ul>
<p>Maintenance A</p>	<ul style="list-style-type: none"> <li>➤ Clean the battery and battery holder</li> <li>➤ Carefully check the Compressor belt tension</li> <li>➤ Change the Compressor belt every 3000 hours</li> <li>➤ Carefully check if the refrigerant leakage</li> <li>➤ Carefully check all electrical connection</li> <li>➤ Carefully check refrigeration mode</li> <li>➤ Carefully check defrost mode</li> <li>➤ Carefully check cabin control box operation status</li> <li>➤ Clean the condenser coil</li> <li>➤ Carefully check the Standby Power bolt tightness</li> <li>➤ Carefully check the Standby Power abrasion</li> </ul>
<p>Maintenance B</p>	<ul style="list-style-type: none"> <li>➤ If necessary, change the tension wheel bearing</li> </ul>
<p>Every Year</p>	<ul style="list-style-type: none"> <li>➤ Change filter desiccant</li> <li>➤ Clean the expansion valve filter</li> </ul>
<p>Every Two Years</p>	<ul style="list-style-type: none"> <li>➤ Change Compressor oil</li> <li>➤ Change refrigerant</li> <li>➤ Change expansion valve</li> </ul>




Troubleshooting introduction:

Malfunction	Possible Reason	Solution
<p>Air Compressor not working</p>	<ul style="list-style-type: none"> <li>➤ The refrigerating unit switch not working or fuse damage</li> <li>➤ Clutch not working (Low voltage; Coil winding no electric, Winding wire damage)</li> <li>➤ Clutch not working (Air Compressor inside blocked; Belt broken down or slip; Clutch slip)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Change new fuse and connect the wire</li> <li>➤ Carefully checking clutch line, connect the wire and solve the problem. Checking the temperature sensor, pressure switch, etc. parts. Change damaged parts, change electromagnetic clutch.</li> <li>➤ Change new Air Compressor; Adjust the belt tension or change new belt; Check the space of the clutch.</li> </ul>
<p>Air Compressor working, but not have cooling function, suction &amp; exhaust pressure very low</p>	<ul style="list-style-type: none"> <li>➤ The Refrigerating Unit refrigerant leakage</li> <li>➤ Air Compressor blade damage, pressure difference between inlet and outlet too small</li> <li>➤ Expansion Valve blocked, the refrigerant cannot cycle in the system</li> <li>➤ Storage Dry Filter blocked</li> <li>➤ Evaporator Fan not working (wire disconnect, Fan blade blocked)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Check and add enough refrigerant</li> <li>➤ Repair or change the blade</li> <li>➤ Repair or change the Expansion Valve</li> <li>➤ Repair or change the Dry Filter</li> <li>➤ Checking the wire connector and Fan blade</li> </ul>
<p>Cold air volume not enough, low pressure gauge index is higher, high pressure index normal</p>	<ul style="list-style-type: none"> <li>➤ Fan voltage lower</li> <li>➤ Evaporator surface blocked</li> <li>➤ Fan switch not working, cannot change to higher speed</li> </ul>	<ul style="list-style-type: none"> <li>➤ Check the connector and wire</li> <li>➤ Cleaning the Evaporator</li> <li>➤ Repair or change the variable resistor</li> </ul>



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<p>Condenser Fan air volume not enough, low pressure gauge and high pressure index are higher</p>	<ul style="list-style-type: none"> <li>➤ Condenser Fan high speed switch not working</li> <li>➤ Condenser Fan voltage is higher</li> </ul>	<p>Check the pressure gauge; Check the power voltage; Check the wire</p>
<p>High pressure gauge and low pressure gauge index are lower</p>	<ul style="list-style-type: none"> <li>➤ Refrigerant not enough</li> <li>➤ Low pressure pipe is blocked by dirty, refrigerant cycle not smoothly</li> <li>➤ Expansion Valve sensor leakage, and opens too narrow</li> </ul>	<ul style="list-style-type: none"> <li>➤ Add enough refrigerant</li> <li>➤ Cleaning the dirty, repair or change new Dry Filter</li> <li>➤ Change new Expansion Valve</li> </ul>
<p>High pressure gauge and low pressure gauge index are higher</p>	 <ul style="list-style-type: none"> <li>➤ Refrigerant too much</li> <li>➤ Air is mixed in the pipe</li> <li>➤ Expansion Valve open too wide</li> <li>➤ Condenser with poor heat dissipation</li> </ul>	<ul style="list-style-type: none"> <li>➤ Release some refrigerant</li> <li>➤ Cleaning air in the system</li> <li>➤ Adjust the Expansion Valve superheat</li> <li>➤ Cleaning the Condenser or Adjust the Condenser Fan speed.</li> </ul>
<p>High pressure gauge index is higher; Low pressure gauge index is lower</p>	<ul style="list-style-type: none"> <li>➤ Dry Filter inside blocked</li> <li>➤ High pressure pipe blocked</li> </ul>	<ul style="list-style-type: none"> <li>➤ Repair or change new Dry Filter</li> <li>➤ Cleaning the pipe</li> </ul>
<p>High pressure gauge index normal, low pressure index unstable, Evaporator internal frost</p>	<p>The whole system mixed with water, Dry Filter not working</p>	<ul style="list-style-type: none"> <li>➤ Remove water by vacuuming process</li> <li>➤ Change new Dry Filter</li> </ul>