

SYSTEM: HVAC



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CONTROL PANELS

5462-159

SYSTEM: HVAC



WARNING



***Before carrying out any operation on the machines of the HVAC System, please read this installation and operation manual carefully.
Installation and maintenance must be carried out only by qualified personnel that is familiar with the provisions of law and local regulations and has been trained properly or has experience with this type of equipment.***

WARNING



Avoid installing the HVAC System equipment in a place that could be dangerous during maintenance operations, such as (but not only) platforms without railings or areas not complying with the clearance requirements.



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1 TECHNICAL DESCRIPTION

1.1 CONTROL PANEL LIST

Table 1 – Control Panel List

EQUIPMENT	CONTROL PANEL TYPE	TAG	QTY
CONTROL PANELS ASSOCIATED TO ENGINE ROOM VENTILATION SYSTEM			
Control panel	FANS control panel	CTP-VES01050	1
Control panel	FANS control panel	CTP-VES02051	1
CONTROL PANELS ASSOCIATED TO HVAC SYSTEM			
Control panel	FANS control panel	CTP-VEN01001	1
Control panel	FANS control panel	CTP-VEN01002	1
Control panel	FANS control panel	CTP-VEN01003	1
Control panel	FANS control panel	CTP-VEN01004	1
Control panel	FANS control panel	CTP-VEN02005	1
Control panel	FANS control panel	CTP-VEN02006	1
Control panel	FANS control panel	CTP-VEN02007	1
Control panel	FANS control panel	CTP-VEN02008	1
Control panel	FANS control panel	CTP-VEN02009	1
Control panel	UNIT COOLER control panel	CTP-ACO01010	1
Control panel	UNIT COOLER control panel	CTP-ACO01011	1
Control panel	UNIT COOLER control panel	CTP-ACO01012	1
Control panel	UNIT COOLER control panel	CTP-ACO01013	1
Control panel	UNIT COOLER control panel	CTP-ACO01014	1
Control panel	UNIT COOLER control panel	CTP-ACO01015	1
Control panel	UNIT COOLER control panel	CTP-ACO01016	1
Control panel	UNIT COOLER control panel	CTP-ACO01017	1
Control panel	UNIT COOLER control panel	CTP-ACO01018	1
Control panel	UNIT COOLER control panel	CTP-ACO01019	1
Control panel	UNIT COOLER control panel	CTP-ACO01020	1
Control panel	UNIT COOLER control panel	CTP-ACO02021	1
Control panel	UNIT COOLER control panel	CTP-ACO02022	1
Control panel	UNIT COOLER control panel	CTP-ACO02023	1
Control panel	UNIT COOLER control panel	CTP-ACO02024	1
Control panel	UNIT COOLER control panel	CTP-ACO02025	1
Control panel	UNIT COOLER control panel	CTP-ACO02026	1
Control panel	UNIT COOLER control panel	CTP-ACO02027	1
Control panel	UNIT COOLER control panel	CTP-ACO02028	1
Control panel	UNIT COOLER control panel	CTP-ACO02029	1
Control panel	UNIT COOLER control panel	CTP-ACO02030	1
Control panel	UNIT COOLER control panel	CTP-ACO02031	1
Control panel	UNIT COOLER control panel	CTP-ACO02032	1
Control panel	UNIT COOLER control panel	CTP-ACO01041	1
Control panel	UNIT COOLER control panel	CTP-ACO02048	1
Control panel	UNIT COOLER control panel	CTP-ACO01049	1
Control panel	UNIT COOLER control panel	CTP-ACO01050	1
Control panel	UNIT COOLER control panel	CTP-ACO01051	1
Control panel	UNIT COOLER control panel	CTP-ACO01052	1



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EQUIPMENT	CONTROL PANEL TYPE	TAG	QTY
Control panel	UNIT COOLER control panel	CTP-ACO02056	1
Control panel	FAN COIL control panel	CTP-ACO01033	1
Control panel	FAN COIL control panel	CTP-ACO01034	1
Control panel	FAN COIL control panel	CTP-ACO01035	1
Control panel	FAN COIL control panel	CTP-ACO01036	1
Control panel	FAN COIL control panel	CTP-ACO01037	1
Control panel	FAN COIL control panel	CTP-ACO01038	1
Control panel	FAN COIL control panel	CTP-ACO01039	1
Control panel	FAN COIL control panel	CTP-ACO01042	1
Control panel	FAN COIL control panel	CTP-ACO01043	1
Control panel	FAN COIL control panel	CTP-ACO01044	1
Control panel	FAN COIL control panel	CTP-ACO01045	1
Control panel	FAN COIL control panel	CTP-ACO02046	1
Control panel	FAN COIL control panel	CTP-ACO02047	1

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2 MAINTENANCE

The unit is a high-quality and reliable unit. However, to guarantee the permanent functioning and performance of the unit, regular maintenance and inspection by technical experts is necessary.

WARNING



- *High voltage installed*
- *Risk of electric accident!*
- *Power the unit down before undertaking any work that involves the unscrewing of covers. Ensure that the unit is secured against being switched back on at an appropriate point of the on-site power supply.*

NOTE

The warranty will be invalidated by damage which is attributable to the non-performance of regular essential inspections.

Maintenance must only be performed by trained technical personnel in observance of this operation manual and the regulations in force.

2.1 PREVENTIVE MAINTENANCE

The following maintenance tasks must be performed at the indicated time intervals.

Table 2 - Regular maintenance tasks

Task Code	Task	Frequency	Task duration	Skill of personnel	Required tools	Remarks	Action Reference
PM-1	Clean the control panel	Quarterly (2.160 operating hours)	15 min.	Electrician	Pyrometer, dielectric detergent spray.	--	N/A

The Control Panel must remain always closed and the key must be controlled by authorized personnel.

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2.1.1 Quarterly maintenance (every 2.160 operating hours)

2.1.1.1 Clean the control panel (PM-1)

1. De-energize the control panel.
2. Perform a visual inspection of the elements and verify that there is no "charred" element.
3. Verify that there is no high temperature in the components that make up the panel by using a pyrometer. If a high temperature is detected, it could be a symptom of terminals that are not properly tightened or a cable section lower than necessary.
4. An aspiration should be made in the box to remove dust / dirt that may be present in it.
5. A dielectric detergent spray* should be applied as a protective element approximately 20-25cm apart.
6. Wait 2 hours for the drying and fixing of the applied product mentioned in point 5.
7. Make sure that before cleaning, the area is completely dry before reenergizing.
8. Energize the panel and check the voltages and correct operation of the relays.

NOTE

In addition to the guidelines indicated in the present procedure, you should consult the instructions of the product to be applied as well as its safety precautions.

Required tools: pyrometer and dielectric detergent spray (commercially available worldwide).

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2.2 CORRECTIVE MAINTENANCE

The following corrective maintenance tasks must be performed by qualified technicians:

Table 3 – Corrective maintenance

Task Code	Task Description	Task Duration	Skill of personnel	Required tools
CM-1	Electric component replacement	20 min	Electrician	Insulated screwdriver set

2.2.1 Electric component replacement (CM-1)

WARNING



- *High voltage installed*
- *Risk of electric accident!*
- *Before performing the following work, you must ensure that the unit is powered down and that the mains voltage is secured against being switched back on. Before finishing with the unit, ensure that the electrical terminal box is properly closed.*

- Please verify the control panel is de-engized
- Open the control panel



Figure 1 - Control panel (open)

- Locate electric component to be replaced (01KA5 in this example)

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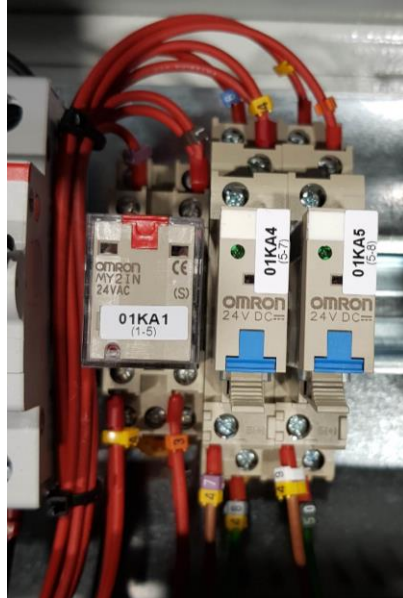


Figure 2 - Omron relay 24V DC

d) Take off the screws with an insulated screwdriver



Figure 3 - Taking off the screws

e) Disconnect the cables associated to the electric component to be replaced

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Figure 4 - Disconnecting the cables

- f) Press on the bottom lid until you hear a "click"



Figure 5 - Pressing on the bottom lid

- g) Take off the electric component to be replaced

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Figure 6 - Taking off the electric component

h) Please proceed installing the new replacement spare by following the steps indicated above in reverse order



Figure 7 - "Clicking" part of the component

Required tools: Insulated screwdriver set

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3 MAINTENANCE DATA RECORD

3.1 GENERAL

For adequate maintenance management a data record should be maintained. A maintenance data record comprises:

- All inspections.
- All executed repairs and replacements of components.
- Particular events like:
 - Deviations from the normal management/operation.
 - Dangerous situations.

3.2 PERIODICAL INSPECTIONS

Records of periodical inspections could contain:

- What periodical inspections should be carried out.
- The executor who should carry out these inspections.
- The time interval between which the inspections should be carried out.
- Persons who should be informed about these inspections.

3.3 REPAIR AND MAINTENANCE

Repairs should only be carried out by skilled personnel and after permission of the management.

Each repair and case of maintenance should be recorded in the equipment maintenance data record sheet.

3.4 REPLACEMENT OF COMPONENTS AND REVISION OF INSTALLATION

Revisions and replacement of components of the refrigerating installation should be recorded in the equipment maintenance data record sheet.

3.5 PARTICULAR EVENTS

Faults, accidents, deviations of normal management and other particular events should be recorded in the equipment maintenance data record sheet.



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