YKtool International
Version 0.11

Ref.: N-27683 0707M

Technical Information

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Introduction

The YKtool unit is a portable diagnostic and test system for air conditioning units based on the YKlon system, that allows displaying the main variables of the system and offers the possibility of activating the different stages in the alternative modes.

Connection and YKlon Identification

YKtool is connected to connector J9 of the YKlon control board, where it is powered and remains in standby for receiving communication.

Once identified, the YKtool unit displays the name and version of the programmes present on the YKlon board, and then displays the main menu on which the different variables can be checked.

When the YKtool unit is removed from connector J9, the YKlon board detects this disengagement and reverts back to normal operation.

Menu System

To move through the menus it is necessary to press the up ⬆ and down ⬇ keys to move over the display and see the menu points that could be concealed.

The first line of the display shows the name of the menu in capital letters and in brackets, followed by a bar that spins while communications are being received from the YKlon board, and lastly an arrow indicating the direction of menu options that are not being displayed.

When viewing variables, the name of the variable appears on the second line of the display, the value and units on the third line, and the fourth line displays the position and total number of variables on the present menu.

To go back to the upper menu, press the escape key ⊗.

Within the test menus, the confirmation key ✓ can be pressed to activate or deactivate each test point.

Outline of Menus

Main Menu

1. Maintenance

1.1. Failures or lock-outs

Displays a list of all current failures detected by the YKlon board. These are displayed in priority order and not in chronological order.

Failure	Description
Indoor fan	Indoor fan heat switch active
High pressure comp. 1	High pressure switch comp. 1 active
High pressure comp. 2	High pressure switch comp. 2 active
High pressure comp. 3	High pressure switch comp. 3 active
Low pressure comp. 1	Low pressure switch comp. 1 active
Low pressure comp. 2	Low pressure switch comp. 2 active
Low pressure comp. 3	Low pressure switch comp. 3 active
Smoke or high temp.	Smoke detector active or high impulse temp.
Discharge temp. 1	Discharge temp. compressor 1 high
Discharge temp. 2	Discharge temp. compressor 2 high
Discharge temp. 3	Discharge temp. compressor 3 high
Rep. cool On 1	Repeated starts in cool, compressor 1
Rep. cool On 2	Repeated starts in cool, compressor 2
Rep. cool On 3	Repeated starts in cool, compressor 3
Aux. heat 1	Failure gas control 1 or heater 1
Aux. heat 2	Failure gas control 2 or heater 2
Aux. heat 3	Stage failure heater 3
Aux. heat 4	Stage failure heater 4
Econ. or HW coil	Economiser or hot water coil alarm

1.2. Incidents

Displays a list of active incidents detected by the YKlon board, in priority order and not in chronological order.

Incident	Description
Suction probe 1	Comp. 1 suction probe out of limits
Suction probe 2	Comp. 2 suction probe out of limits
Suction probe 3	Comp. 3 suction probe out of limits
Liquid probe 1	Comp. 1 liquid probe out of limits
Liquid probe 2	Comp. 2 liquid probe out of limits
Liquid probe 3	Comp. 3 liquid probe out of limits
Discharge probe 1	Comp. 1 discharge probe out of limits
Discharge probe 2	Comp. 2 discharge probe out of limits
Discharge probe 3	Comp. 3 discharge probe out of limits
Rep. defrost 1	Repeated defrosts compressor 1
Rep. defrost 2	Repeated defrosts compressor 2
Rep. defrost 3	Repeated defrosts compressor 3
Low discharge temp. 1	Low discharge temp. compressor 1
Low discharge temp. 2	Low discharge temp. compressor 2
Low discharge temp. 3	Low discharge temp. compressor 3
Accessories lost	A BUDI bus accessory, no communication
Impulse probe	Impulse probe out of limits
Return probe	Return probe out of limits
Outdoor probe	Outdoor probe out of limits
Enthalpy probe	Enthalpy probe out of limits
Thermostat Y without G	Y thermostat input active without input G
Thermostat W without B	W thermostat input active without input B
Imp. temp. 1 gas low	Impulse temp. <25° with gas
Unoccupied	Presence detector in unoccupied
Econ. suction temp. off	Suction temp. <0° C with economiser

2. Accessories

Here the YKtool will display a list of all accessories identified at the bus of connector J10.

Accessory	Description
Compressor 2	Second compressor board present
Compressor 3	Third compressor board present
Economiser	Economiser board present
Water coil	Hot water coil board present
Heater 1	Auxiliary heater 1 board present
Heater 2	Auxiliary heater 2 board present
Heater 3	Auxiliary heater 3 board present
Heater 4	Auxiliary heater 4 board present
Filter detector	Dirty filter detector board present
Smoke detector	Smoke detector board present
Gas control 1	Gas 1 board present
Gas control 2	Gas 2 board present
Tray heater 1	Tray heater 1 board present
Tray heater 2	Tray heater 2 board present

3. Inputs

Displays a listing of all the YKlon input variables and the current status of these, along with all possible peripherals, whether digital (heat switches, pressure switches...) or analogical (value of the economizer potentiometers or hot water coil).

Input	Description
High pressure 1	Status high pressure switch comp. 1
Low pressure 1	Status low pressure switch comp. 1
Indoor fan tem.	Status indoor fan heat relay
High pressure 2	Status high pressure switch comp. 2
Low pressure 2	Status low pressure switch comp. 2
High pressure 3	Status high pressure switch comp. 3
Low pressure 3	Status low pressure switch comp. 3
Heat relay heater 1	Status heat relay aux. heater 1
Heat relay heater 2	Status heat relay aux. heater 2
Heat relay heater 3	Status heat relay aux. heater 3
Heat relay heater 4	Status heat relay aux. heater 4
Presence sensor	Status room presence sensor
Gas 1 failure	Status stage failure sensor gas 1
Gas 2 failure	Status stage failure sensor gas 2
Gas 3 failure	Status stage failure sensor gas 3
Gas 2 controller alarm	2-stage gas controller or 2 1-stage gas controllers
Air quality	Status air quality sensor
Enthalpy probes	Status enthalpy probes
Smoke sensor	Status room smoke detector
Dirty filters	Status dirty filters detector
Damper potentiometer	Position potentiometer of economizer damper
Water valve potentiometer	Position potentiometer of hot water coil water valve

4. Outputs

Displays a listing of all the YKlon output variables and the current status of these, along with all possible peripherals, whether digital (fan relay, heater...) or analogical (economizer damper, hot water coil valve).

Output	Description
Compressor 1	Status compressor 1 output
Indoor fan	Status indoor fan output
Comp. 1 4-way valve	Status comp. 1 4-way valve output
Outdoor fan 1	Status comp. 1 outdoor fan output
Compressor 2	Status compressor 2 output
Comp. 2 4-way valve	Status comp. 2 4-way valve output
Outdoor fan 2	Status comp. 2 outdoor fan output
Compressor 3	Status compressor 3 output
Comp. 3 4-way valve	Status comp. 3 4-way valve output
Outdoor fan 3	Status comp. 3 outdoor fan output
Gas stage 1	Status gas stage 1 output
Gas stage 2	Status gas stage 2 output
Gas stage 3	Status gas stage 3 output
Gas stage 4	Status gas stage 4 output
Electric heater 1	Status auxiliary heater 1 output
Electric heater 2	Status auxiliary heater 2 output
Electric heater 3	Status auxiliary heater 3 output
Electric heater 4	Status auxiliary heater 4 output
Extractor fan	Status extraction fan output
Water pump	Status water pump output
Economiser damper	Status economiser damper output (percentage)
Water valve	Status how water valve output (percentage)
Tray heater 1	Status tray heater 1 output
Tray heater 2	Status tray heater 2 output

5. Temperatures

Displays a list of all temperatures the system can have and the current values of the probes. If the temperature cannot be read out properly, either the probe or the accessory to which it should be connected is nonexistent . --.-- is displayed instead of the temperature.

Probe	Description
Room	Room temperature
Suction 1	Compressor 1 suction temperature
Liquid 1	Compressor 1 liquid temperature
Discharge 1	Compressor 1 discharge temperature
Suction 2	Compressor 2 suction temperature
Liquid 2	Compressor 2 liquid temperature
Discharge 2	Compressor 2 discharge temperature
Outdoor	Outdoor temperature
Return	Return temperature
Impulse	Impulse temperature
Water (HW coil)	Water temperature hot water coil
Suction 3	Compressor 3 suction temperature
Liquid 3	Compressor 3 liquid temperature
Discharge 3	Compressor 3 discharge temperature

6.Cool Test

Displays a list of all cool stages and allows the possibility of activating or deactivating these by pressing the ✔ key. The test function deactivates the calls from the thermostat, and the YKtool acts as the thermostat calling for a specific stage.

Element	Description
Compressor 1	Activates compressor 1 in cool cycle
Compressor 2	Activates compressor 2 in cool cycle
Compressor 3	Activates compressor 3 in cool cycle
Economiser	Activates economiser in cool cycle

7.Heat Test

Displays a list of all heat stages and allows the possibility of activating or deactivating these by pressing the ✔ key. The test operation deactivates the calls from the thermostat, and the YKtool acts as the thermostat calling for a specific stage.

Element	Description
Compressor 1	Activates compressor 1 in heat cycle
Compressor 2	Activates compressor 2 in heat cycle
Compressor 3	Activates compressor 3 in heat cycle
HW coil	Activates hot water coil in heat cycle
Auxiliary 1	Activates auxiliary heater 1 or gas 1 or water coil 1*
Auxiliary 2	Activates auxiliary heater 2 or gas 2 or water coil 2*
Auxiliary 3	Activates auxiliary heater 3 or gas 3 or water coil 3*
Auxiliary 4	Activates auxiliary heater 4 or gas 4 or water coil 4*

* Activation of water coil, stages 1, 2, 3 and 4 as of YKlon V.3.0.

8.Defrost Test

Displays a list of all compressor stages and allows the possibility of activating a defrost cycle by pressing the ✔ key. Once started, and if not deactivated, it will carry out defrost cycles one after another as if the corresponding compressor liquid sensor has been removed. Only one defrost cycle of a single stage will be carried out at a time, even if the test is activated for more than one stage.

Element	Description
Compressor 1	Activates compressor 1 defrost cycle
Compressor 2	Activates compressor 2 defrost cycle
Compressor 3	Activates compressor 3 defrost cycle

9.Language

Displays a list of all languages and allows activating or deactivating a language by pressing the ✔ key.

	Language
1	Spanish
2	English
3	French
4	German
5	Italian

Version

When the YKtool is connected, displays the current version of the YKtool, and then the Yklon board version.
Record of programme versions.
Version 0.11: Launch version.

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