



Dry contact controller

User and Installation manual

To Users

Thank you for selecting Argo product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- (2) This instruction manual is a universal manual, some functions are only applicable to particular product. All the illustrations and information in the instruction manual are only for reference, and control interface should be subject to actual operation.
- (3) In order to make the product better, we will continuously conduct improvement and innovation. If there is adjustment in the product, please subject to actual product.
- (4) If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support. Users should not disassemble or maintain the unit by themselves, otherwise it may cause relative damage, and our company will bear no responsibilities.

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1 Safety Notices (Please be sure to abide)



WARNING: If not abide them strictly, it may cause severe damage to the unit or the people.



NOTE: If not abide them strictly, it may cause slight or medium damage to the unit or the people.



This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people.



This sign indicates that the items must be observed. Improper operation may cause damage to people or property.



WARNING!

This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.

2 Appearance



Figure 2-1 Appearance of dry contact controller

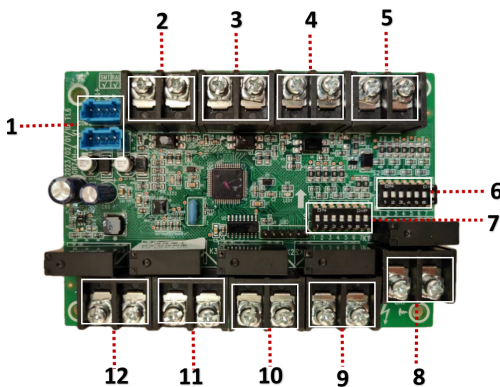


Figure 2-2 Main board of dry contact controller

Table 2-1 Instruction of main board

No.	Components	No.	Components
1	4-core needle stand (common use for communication and power supply)	7	DIP switch S1
2	Emergency off signal input	8	ON/OFF status output
3	ON/OFF signal input	9	Unit faulty output
4	Cooling/heating signal input	10	Operating mode output
5	Reserved terminal block	11	Cold plasma output
6	DIP switch S2	12	Ventilation output

3 DIP Switch Instruction

Two DIP switches S1 and S2 are installed on the dry contact controller. Before energization, please set to proper position according to requirement. Once energization is finished, please do not dial any DIP switch. As for the function definition for DIP switch S1 and S2, please refer to table 3.1 and table 3.2.

Table 3-1 Function for DIP switch S1

Dip switch bit	1	2	3	4	5	6	7
Description	General terminals control enable	Input type	Reserved				
ON position	Enable	Level	/				
Digital position	Disable	Impulse	/				

Table 3-2 Function for DIP switch S2

Dip switch bit	1	2	3	4	5	6	7
Input name	Emergency OFF	ON/OFF	Cooling/ heating	Reserved			
ON position	Enable	Enable	Enable	/			
Digital position	Disable	Disable	Disable	/			

4 Functions

4.1 Shield General Terminals

Once the first bit of DIP switch S1 is set to Digital position (General terminals control disable), the unit will shield the general terminals (wired controller, remote controller, APP and light board), and high-end terminals (central controller, long-distance monitor, keycard control) and dry contact controller can still control the unit. When the first bit of DIP switch S1 is set to ON position (General terminals control enable), all the terminals can control the unit.

4.2 Input Function

The dry contact controller is compatible with level input method and impulse input method, which can be selected by the second bit of DIP switch S1. Each input function can be set as enable or disable through the corresponding bit of DIP switch S2. When it is set as disable, the unit won't execute corresponding input command. The following descriptions of input functions are supposed as the input functions are enabled.

4.2.1 Level Input

Under level input method, the input command is decided by the Connected/Disconnected of the dry contact. Each time when the status of dry contact is changed, input commands of all the dry contacts will be re-executed. The relationship between dry contact status and the input command are shown as the table 4.1.

Table 4-1 Level input

Input name	Status of dry contact	Command
Emergency off	Connected	Cancel Emergency off
	Disconnected	Emergency off
ON/OFF	Connected	Turn unit on
	Disconnected	Turn unit off
Cooling/heating	Connected	Heating
	Disconnected	Cooling

4.2.2 Impulse Input

Under impulse input method, for each detection of dry contact from disconnected to connected (connected time should be more than 500ms), it is deemed as valid impulse input. When valid impulse input is detected, dry contact controller updates corresponding input commands. The detail commands are shown as Table 4.2. For each detection of valid impulse input, commands of all the dry contacts will be re-executed. When dry contact controller is energized, it needs about 6 seconds to acquire operating status of unit, during such period, all the inputs are invalid.

Table 4-2 Impulse input

Input name	Machine state	Machine type	Command
Emergency off	With Emergency off	/	Cancel Emergency off
	Without Emergency off (default when energized)		Emergency off
ON/OFF	Machine on		Turn off the unit
	Machine off		Turn on the unit
Cooling/heating	Heating		Cooling
	Not heating	Cooling only	Cooling
		Cooling and Heating	Heating

**NOTES!**

When it conducts emergency off all the terminals including dry contact controller cannot turn on the unit.

4.3 Output Function

The dry contact controller will output corresponding function and status by controlling the connected/disconnected of the dry contact. User can connect power cord with load to the output terminal to turn corresponding load ON/OFF via dry contact controller. Definition of output contacts are shown in Table 4.3.

Table 4-3 Function definition of output contact

Output dry contact	Contact connected	Contact disconnected
ON/Off status	Unit on	Unit off
Unit faulty	Unit Faulty	Normal
Operating mode	Heating	Cool/Dry/Fan
Cold plasma	Turn cold plasma on	Turn cold plasma off
Ventilation	Turn ventilation on	Turn ventilation off

4.4 Indicator Instruction

The normal display of the indicator indicates the normal operation of the dry contact controller.

Table 4-4 Indicator instruction

No.	Indicator	Function introduction
1	Power indicator (red)	It's on after energization
2	Communication indicator (orange)	Flashing during communication

5 Product Installation

5.1 Dimension

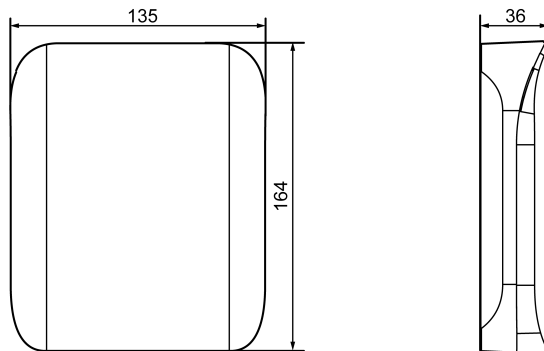


Figure 5-1 Dimension of dry contact controller (unit: mm)

5.2 Installation Requirement

- (1) Do not install the product at wet place or the place where there's splashing water.
- (2) Do not install the product at the place where is closing to the high-temperature object or the position with direct sunshine.
- (3) This product is suggested to be installed at indoors. The suggested working temperature range for installation is 0~50°C. The suggested working humidity range for installation is 20~85% RH. The altitude required for the product

operation is below 2000 meters.

- (4) Before installation, please cut off the power for the strong wire embedded in the installation hole on the wall. Ho-line work is not allowed during the complete installation process.
- (5) Please pay attention to below notices for wiring to avoid abnormal phenomenon due to electromagnetic interference.
 - 1) Make sure the communication wire connects to the correct interface. Otherwise, there will be communication error.
 - 2) The communication wire of dry contact controller (4-core wire) should be separated from other power cord and the minimum distance should be more than 20cm. Otherwise, there will be communication error.
- (6) The length of the communication cable between the product and the unit can't be more than 8 meters.
- (7)  The motherboard is marked with this symbol, which may carry high voltage. Please pay attention to safety.

5.3 Wire Specification

It is recommended to use the connecting wire with cross sectional area of 0.75mm² for input and output of dry contact controller.

5.4 Wiring Instruction

5.4.1 Communication and power cord connection

Connect one end of wiring (4-core wire) to the COM1 needle stand of dry contact controller and then connect the other end to the 4-core COM3 needle stand of the indoor unit (The port number of the indoor unit is subject to the actual matching indoor unit).

Power supply of dry contact controller: 12VDC, 200mA.

5.4.2 Connection of Input Dry Contact

Connect two terminals of each group of input dry contact to the both ends of switch respectively. Single control switch is suggested for the level input method, and touch switch is recommended for impulse input method.

5.4.3 Connection of Output Dry Contact

Connect the two terminals of each group output to the load respectively. The requirement for the allowable connected load:

- (1) Weak current: 12~24VDC(100mA~500mA).
- (2) Strong current: 200~240VAC(100mA~3A).

Over voltage level of high voltage at output terminal: II.

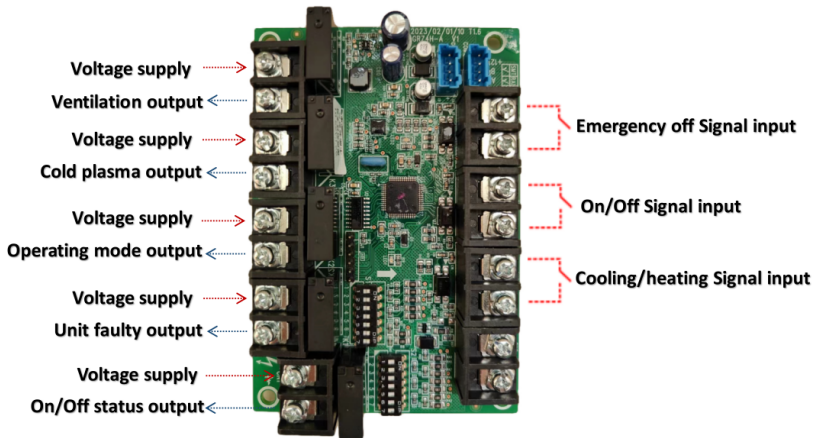


Figure 5.2 Sketp map for input/output wiring

5.4.4 Installation Procedure

- (1) Remove the screws used for fixing the front cover; Open the front cover of dry contact controller.
- (2) Check whether the screws used for fixing the main board is loose. If yes, please tighten the screws to fix the main board.
- (3) Attach the bottom case of dry contact controller at the installation position (such as the wall) and then use screws to fix the base case and the installation hole on the wall together.
- (4) Set the DIP switch S1 and S2 to the corresponding position.
- (5) Put the wire through the rubber ring and make sure the basic insulation layer

and the protective jacket of the wire can put through the rubber ring and wire clamp.

- (6) Connect the wire to corresponding terminals, and screw up the screw in the contact to make sure that it will not loose.
- (7) Use wire clamp to press the wire, and screw up to fix the screws of wire clamp.
If the wires for connecting are less than 3 sets, please use white wire clamp, otherwise use black wire clamp.
- (8) Close the front cover of dry contact controller and then tighten the screws of the front cover.



Figure 5.3 Sketch map for wire-pressing



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