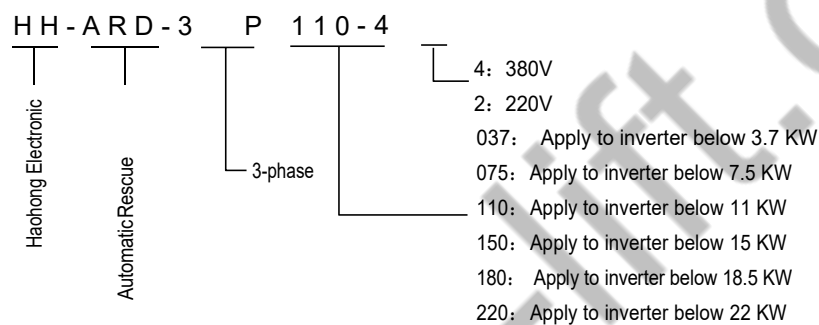


HH-ARD-3P Elevator Automatic Rescue Device

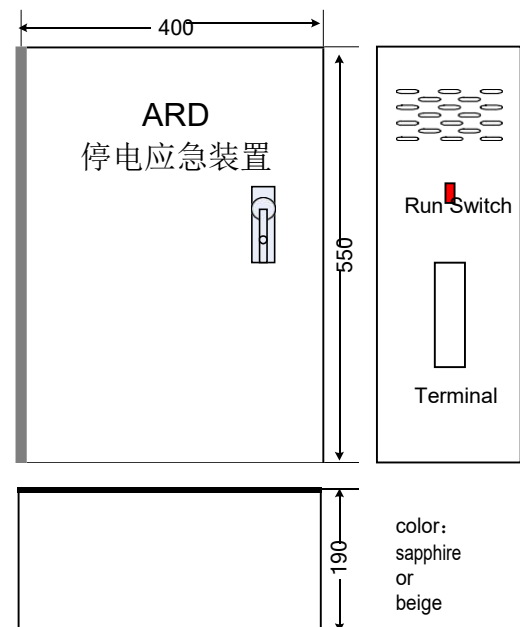
1. Introduction

ARD used to provide back-up emergency power supply to lift frequency control system. It has significant advantages such as installation convenience, wiring simple, high performance cost ratio, etc. In case of power failure, ARD run automatically in the set time, make the lift car run slowly to the nearby floor to save passengers.



2. Attentions before installation

- 2.1. Please be sure to read this manual carefully In order to use ARD correctly.
- 2.2. This manual applies for the 3-phase output ARD.
- 2.3. Must be take safety measures before using ARD as follows in order to avoid people and equipment accident:
 - 2.3.1 Cut off the power supply before installation.
 - 2.3.2 Please make sure that the elevator various equipment grounding good.
 - 2.3.3 In order to prevent the installation or maintenance personnel cause harm, avoid damage to elevator equipment, please follow the instruction for use ARD.
 - 2.3.4 Make sure the electric system contact correct between ARD and elevator.
 - 2.3.5 ARD must be installed by elevator professional technician.
- 2.4. This manual introduces ARD's installation and connection steps, signal terminal.
- 2.5. We will not notify if the introduction has changed.



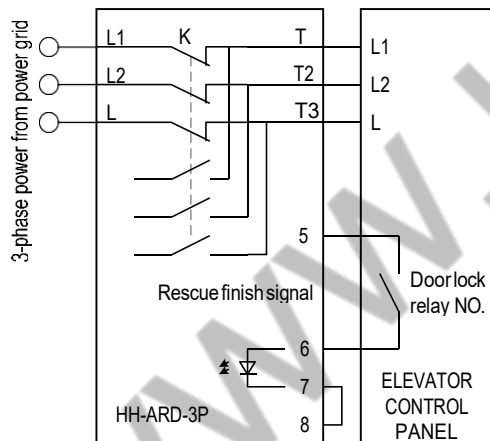
3. Terminal definition

L1	L2	L3	N	T1	T2	T3	1	2	3	4	5	6	7	8
3-phase Power Input From power grid			Null line	3-phase Power output to control cabinet			Rescue instruction 1 (Relay NO)		Rescue instruction 2 (Relay NO)		Rescue finish signal (input signal)			

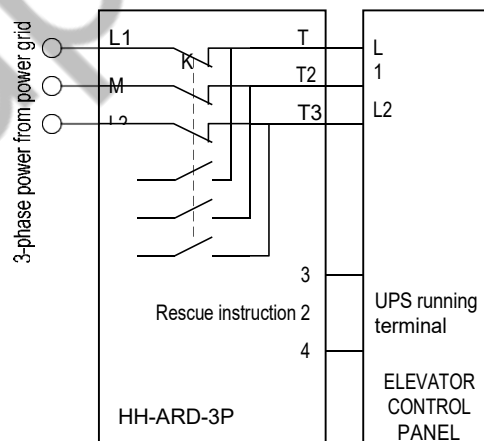
- 3.1. In process of rescue, if it is found that the phase lose protection relay of elevator control cabinet malfunction, shorting circuit the output contact of the phase lose protection relay by using "Rescue instruction 1".
- 3.2. In case of the rescue finish signal can't be provided by elevator control system, using "Rescue instruction 2" to prevent the elevator door shutdown automatically after the door opened in floor level, such as connecting to UPS running signal, the door open button, the light curtain, etc. Automatic running direction selecting function can be used in some elevator control system such as MONARCH NICE-3000, NEWSTEP AS-380, etc.

4. Installation and connection

- 4.1. Installation ARD must be after lift running normal. Place ARD in the appropriate location nearby the elevator control panel. The stent may be used in the machine-room-less lift.
- 4.2. Disconnecting the elevator grid power. Shut off the power switch on the side of ARD. Connecting the grid power to terminal "L1, L2, L3" of ARD, connecting "T1, T2, T3" of ARD to the power input terminal of the elevator control panel. Don't connect the grid power to the elevator control panel directly. ARD may be damaged and accidental injury if connection error.
- 4.3. Typical connection mode:



If the elevator has not the UPS running function, perform rescue by using the elevator auto-running flat in low speed function. In this case, the rescue finish signal must be connected.



If the elevator has the UPS running function, perform rescue by using this function. No need the rescue finish signal in this case, .

- 4.4. Closing the grid power switch after checking all connection. Shut on the power switch on the side of ARD. The green charging LED flashing that indicating ARD is in charging mode.
- 4.5. Some parameters of the elevator control system may be adjusted. You can consult our company.
- 4.6. Cutting off the power grid supply. The green LED and the red LED light up simultaneously.
- 4.7. The green LED flashing and the red LED extinguish after setting time. ARD provide power to the elevator control panel. If ARD receive the Rescue finish signal or setting time arriving, ARD stops output power. The red LED light on and the green LED extinguish. ARD will be in charging mode again if the grid power recover.

5. LED Indication

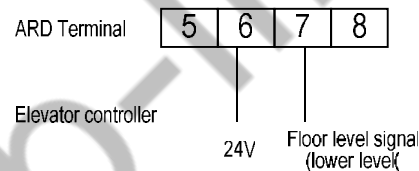
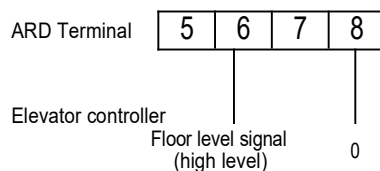
State	The red LED	The green LED
Standby and charging mode	Light off	flashing
Power failure and waiting setting time	Light on	Light on
Providing backup power	flashing	Light off
Rescue completed	Light on	Light off

6. Choosing stop time by the dial switch SW1 when the rescue finish signal used

1	Bit 1 = Off Bit 2 = Off	Stop output after the rescue finish signal appear 5s
2	Bit 1 = Off Bit 2 = On	Stop output after the rescue finish signal appear 10s
3	Bit 1 = On Bit 2 = Off	Stop output after the rescue finish signal appear 15s
4	Bit 1 = On Bit 2 = On	Stop output after the rescue finish signal appear 20s

ARD will stop output after about 5min. if the rescue finish signal don't appear.

7. Take the floor level signal as the rescue finish signal



8. Maintaining

- 8.1. Battery must be charged in first using or after a long time unused.
- 8.2. Please replace the battery if finding battery leakage or other abnormal.
- 8.3. Propose discharging battery per 3-6 month.
- 8.4. If the lift need repair, please be sure to close the outside switch of ARD, to prevent accidental injuries.

9. Specification

Specification	HH-ARD-3P037	HH-ARD-2P075	HH-ARD-2P110	HH-ARD-2P150	HH-ARD-2P185	HH-ARD-2P220
Max. inverter power	3.7 KW	7.5 KW	11 KW	15 KW	18.5 KW	22 KW
Input	3-phase AC 380V or AC 220V $\pm 10\%$, 50 Hz / 60 Hz					
Output	3-phase AC 380V or AC 220V $\pm 20\%$, 50 Hz					
Battery	DC 12V, 12 AH	DC 48V, 7 AH	DC 48V, 7 AH	DC 48V, 7 AH	DC 48V, 9 AH	DC 48V, 12 AH
Battery charging time	Normally 20 hours					
Start pattern	Automatic, start after about power failure 15s					
Stop pattern	Delay stop time can be selected 5/10/15/20s by the dial switch when received the rescue finish signal. ARD will stop output after about 5 if the rescue finish signal don't appear.					
Protection function	Over voltage protection, over current protection, battery protection					

End