ELEVATOR AUTOMATIC RESCUE DEVICES

Single phase ARD

SOJI GROUP
Soji technology
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Introduction

SOJI presents the new generation of single phase Elevator Automatic Rescue Device (ARD or MELD), the result of worldwide experience in elevator applications.

The single phase ARD is a newest generation of emergency rescue device for elevator system to guarantee the return of cabinet to the nearest floor and open the door safely in the event of AC mains power failure, also in the case of power problem with lift itself. The smart CPU-based ARD can be installed with type of control panel of elevator systems that have UPS rescue function in Inverter or VVVF like FUJI frenic lift, Yaskawa, Emerson or others supported…. It functions with sealed acid batteries and free maintenance. Easy installation and safe landing the cabinet for 100% security to the lift’s operation.

What it works for?

The ARD comes into operation within few seconds when the AC mains power is failure or power system got problem in lift itself. If the lift is staying at the floor level, ARD simply open the cabinet door. If the lift is blocked between two floors, ARD turns the motor in the direction that requires the least expenditure of current to bring the cabinet to the nearest floor level or bottom floor level with commanded, and then open the door.
Features

- **Safe and reliable operation:** The SOJI ARD continuously monitors the battery voltage, battery current and inverter current. Any fault condition is annunciated by the use of status LEDs and cut off to protect devices. The system aborts the backup operation in the event of any fault condition.

- **Intelligent energy saving feature:** The SOJI ARD alarms and cut offs when the battery current exceeds a threshold during the emergency operation.

- **Battery condition monitoring:** When mains-power is present the system monitors the battery condition and indicates if the battery is faulty. This aids in preventive maintenance and ensures that backup does not fail due to fault battery.

- **Extensive signaling:** Status LEDs indicate the load, mains-power present, backup inverter on, battery charging on, battery fault, Overload, Under-load, battery charging over, over current fault conditions. There is a fault relay which indicates battery fault or battery low condition.

- **Smart CPU to detect the elevator power condition at real time and operate the safe landing for any emergency happened.**

- **Wide Input Voltage and Frequency Range with full AVR**

- **Pure Sine Wave Output Waveform**

- **Self detection of Input Frequency (50Hz/60Hz)**

- **Switch ON and OFF Automatically**

- **Full Protection against Overload, Short Circuit etc.**

- **High Speed of In-phase transfer**

- **Intelligent Communication Ports Available**
  - RS232/USB/SNMP
  - Compact mechanical design for space-saving
  - Easy installation and safe operation
  - LCD display
## Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SJ210N</th>
<th>SJ215N</th>
<th>SJ220N</th>
<th>SJ230N</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA Rating</td>
<td>1000VA</td>
<td>1500VA</td>
<td>2000VA</td>
<td>3000VA</td>
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<tr>
<td>Real Power Rating</td>
<td>600W</td>
<td>900W</td>
<td>1200W</td>
<td>1800W</td>
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</tbody>
</table>

### Display
- Indicator on Panel: LED / LCD plus LED display

### AC Mode
- Input Voltage: 165Vac ~ 275Vac / 150Vac-275Vac (optional)
- Input Frequency: 45-65 Hz (transfer to battery mode if out of this range)
- Output voltage: 220Vac ± 10%
- Efficiency: ≥ 96% (AC Mode)
- Overload in AC mode:
  - 110% transfer to bypass within 60sec;
  - 120% transfer to bypass within 30sec;
  - Automatic recovery if load capacity is restored to normal.

### Inverter Mode
- Output Voltage: 220Vac ± 5%
- Output Frequency: 50HZ/60HZ ± 1% self-detection
- Output P.F: ≥0.6
- Waveform Distortion: Linear Load ≤ 5%
- Battery Backup Time: ≥ 10min (PC load)
- Transfer Time: Typical value 5ms, Max: 8ms
- Efficiency: ≥ 80%(INV Mode)
- Overload in INV mode:
  - 110% Shut down within 60sec;
  - 120% Shut down within 5sec;

### Short Circuit
- Protected by Input Fuse

### Alarm
- AC abnormal: Once every 4sec, be silent after 40s
- Battery low: Once every 0.2sec
- Overload: Once every 1sec

### Battery
- DC voltage:
  - 24V
  - 24V
  - 36V
  - 48V
- Configuration:
  - 2×12V 7AH
  - 2×12V 8AH
  - 3×12V 8AH
  - 4×12V 8AH
- Charging current: 1.2A (Max.)
- Recharge Time: 90% Capacity after 8hours
- Communication (option): RS232/USB/SNMP (can be set to turn on/off UPS automatically)

### Others
- Output Sockets: Customized upon request
- IP Level: IP20
- Ambient Temperature: 0°C ~ 40°C
- Ambient Humidity: 10% ~ 90% (No Condensing)
- Noise: ≤50dB (1m)
- Dimension (mm): D*W*H
  - 360×145×215
  - 430×145×215
  - 475×200×337
- Packing Dimension (mm):
  - 50×325×245
  - 430×145×215
  - 590×320×465
- Net Weight (kg):
  - 14.5
  - 15.5
  - 18.5
  - 27.5
- Gross Weight (kg):
  - 15.5
  - 16.5
  - 19.5
  - 28.6

The specifications are subject to change without notice.
### Recommend UPS applicable for elevator motor power

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<th>GEARED TRACTION MACHINE CAPACITY</th>
<th>2.2kW</th>
<th>3.7kW</th>
<th>5.5kW</th>
<th>6.4kW</th>
<th>7.5kW</th>
<th>9kW</th>
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**Note:** (*) case is applicable for some type of elevator. You can try with your elevator, if it is not applicable, please choose bigger capacity UPS.