



ELEVATOR AUTOMATIC RESCUE DEVICES



Single phase ARD

SOJI GROUP

Soji technology

7/14/2010

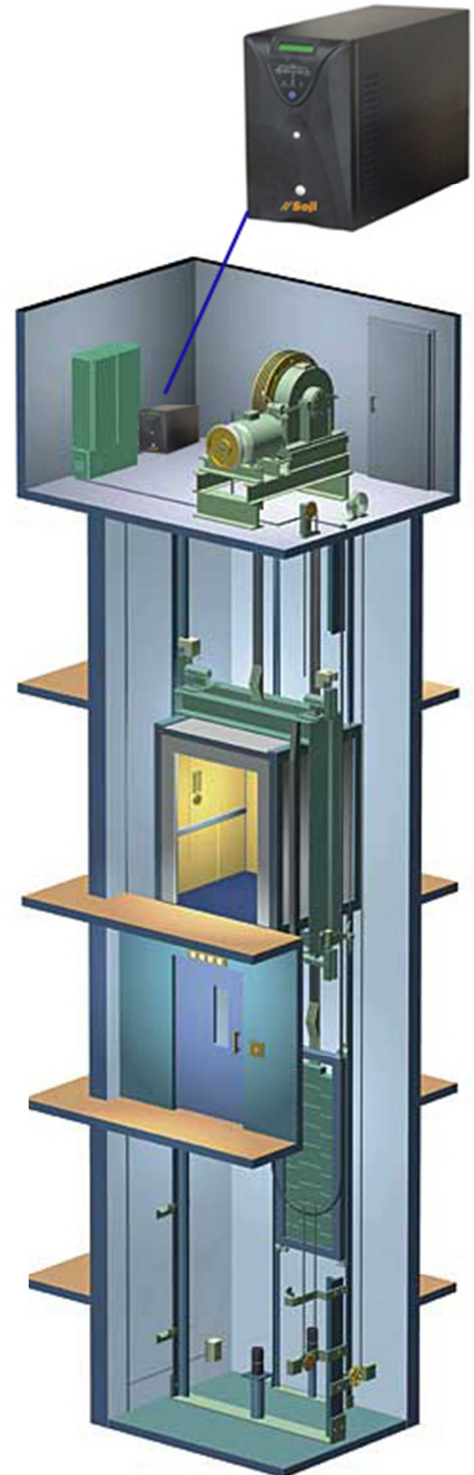
Introduction

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

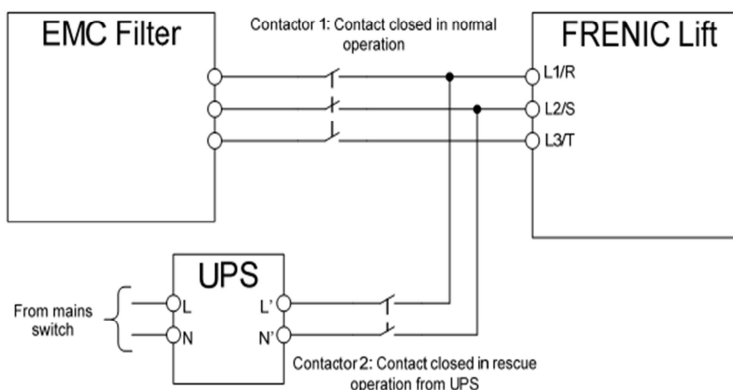
The single phase ARD is a newest generation of emergency rescue device for elevator system to guarantee the return of cabinet to the nearest floor and open the door safely in the event of AC mains power failure, also in the case of power problem with lift itself. The smart CPU-based ARD can be installed 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.



Connection of UPS for rescue operation (example)



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 InputVoltage and Frequency Range with full AVR
- Pure Sine Wave OutputWaveform
- 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
- IntelligentCommunication Ports Available
RS232/USB/SNMP
- Compact mechanical design for space-saving
- Easy installation and safe operation
- LCD display



- | | |
|-------------|--|
| 1 Bypass | 4 Battery(Green AC mode, Red Inv mode) |
| 2 AC Input | |
| 3 AC Output | 5 LCD |

◆ Rear Panel



- | | |
|--------------------------|-------------------|
| 1 TEL/FAX (Optional) | 5 Fuse |
| 2 Output Sockets | 6 Input |
| 3 RS232 / USB (Optional) | 7 SNMP (Optional) |
| 4 Input Switch | 8 DC Input |
| | 9 Fan |



Specifications

Model	FJ210N	FJ215N	FJ220N	FJ230N
VA Rating	1000VA	1500VA	2000VA	3000VA
Real Power Rating	600W	900W	1200W	1800W
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.			
Short Circuit	Protected by Input Fuse			
Inverter Mode				
Output Voltage	220Vac± 5%			
Output Frequency	50HZ/60HZ ± 1% self-detection			
Output P.F	≥0.6			
Waveform Distortion	Liner 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	≥20ms System shut down automatically			
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

Soji ARD UPS Model	GEARED TRACTION MACHINE CAPACITY							
	2.2kW	3.7kW	5.5kW	6.4kW	7.5kW	9kW	11kW	15kW
FJ210N 1000VA/900W	X							
FJ215N 1500VA/900W	X	X	X (*)					
FJ220N 2000VA/1200W	X	X	X	X	X (*)			
FJ230N 3000VA/1800W	X	X	X	X	X	X	X	X (*)

Soji ARD UPS Model	GEAR TRACTION MACHINE CAPACITY							
	1.4kW	2.2kW	3.3kW	4.5kW	5.5kW	7.9kW	9.6kW	11kW
FJ210N 1000VA/900W	X							
FJ215N 1500VA/900W	X	X	X (*)					
FJ220N 2000VA/1200W	X	X	X	X	X (*)			
FJ230N 3000VA/1800W	X	X	X	X	X	X	X	X (*)

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.



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