

The increase in demand of sophistication in the elevator field is taking us to design the new dimension of Auto Rescue Devices for Elevators. Power failure is very often in our country and makes the passenger inside the lift to get panic, if unnoticed for long. Auto Rescue Devices are taken care of the elevator operation during power fail and moves the elevator to the near by floor. Most of the builders especially like Apartments and Hospital are insisting for Rescue unit even for new as well as old lifts. This document gives an overview and technical details of MABARA-Auto Rescue Device here after called as MARD.

- Power Output: MARD units are capable to deliver continuous load of 1000W just for the winding unit (20Amps) and 400W (8 Amps) of 120/140V for RCR and BRK. So RESCUSE operation is 100% successful in any number power failure irrespective of the passenger load.
- Power Conversion: Since the elevator V3F is used as drive in Rescue mode, the system reliability to move the Car body is ensured even at any load.
- Protection: Complete component protection is ensured in all our design especially for RCR and BRK wire short circuit, drive output short circuit.
- Charge Algorithm: Multi level Battery charge mechanism ensures long battery life. Charging current and Voltage are decided based on the charge level and the battery charge cycle.
- SMPS Charger: Inbuilt SMPS power supply controlled by the ARD logic board makes the system without any heat. We ignored linear regulators for charging since they are very less reliable for such high voltage battery charging.
- Error Messages: Two 7-segment display and a push button gives the complete information about the various possible errors in the system like overload, low battery etc.
- History Log: More than 8 monitoring information's like number of ARD operation, number of ARD unsuccessful operation, reason for unsuccessful, battery state, battery charge and discharge efficiency are stored in internal MEMORY and can be viewed at time.
- Multi-Meter: Logic board itself acts as a multi meter and shows the Battery Voltage, Charging Current, and Motor Current etc in the 7-segment display. It will be very useful while commissioning the MARD.
- Controlled Output: According to the load demand, the output voltages are adjusted within the input rating of V3F drive. RCR, BREAK voltages are maintained constant.
- 110V/220V RCR & BREAK: Possible to configure flexible RCR and Break voltages. Capable to supply load of about 400W without any dip in voltage.
- Diagnosis: Each and every components are Diagnosed to the maximum possible extend and the error information's are displayed which makes service and maintance quite easy.
- Non-Contact TRIP info: Trip information from the V3F is sensed by the special circuitry without connecting the trip contacts from the V3F. This makes the wiring simple and existing trip wiring in the lift controller need not to be disturbed.
- Auto Door: MARD units are available for all types of Auto door like door motor with Drive and without Drive.
- High-speed: V3F can allowed to run up to 9HZ based on site which makes the Rescue operation quite Faster.
- Safety: 230V / 110V field safety wiring ensures the proper door safety even at Rescue mode.



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