Smart Control Panel

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Abstract— The paper presents here, we are introducing the phase changer for the lift elevator. Now a day's lift is run on the 3- phase power but when the power cut off at that time elevator is stopped at the position. But in this project this problem is overcome. When the power loss cut off that elevator connected automatically with reserve energy source or battery supply for emergency condition it should be Used and safely reached at basement.

Key words: Automatic Rescue Device, Miniature Circuit Breaker, Relay Card, High to Law and Law to High Voltage Transformer

I. INTRODUCTION

Now a day, in the Elevator system that can working on a 3-Phase but its many difficulties during the power faille because of when power cut off than its stop at that time and any place they reach but in the case of hospital and any difficult situation its very risky or not harmful but now the implement or interfacing of ARD than through the S.M.P.S that can be switched on a battery mood than its safely riche the elevator car in nearest place or our decided place

II. AUTOMATIC RESCUE TECHNOLOGY (A.R.D)

The Smart Rescue works on the principle of powering and operating the Elevator Controller at rated Voltage to perform the Rescue operation. The Rescue device interfaces with the ES Drive, which has a unique feature of "Low voltage DC operation" to operate the Elevator Motor with Low voltage Battery.

During Mains power ON, it monitors the power and continuously charges the Batteries. In the event of power failure, the Rescue device will activate within the predetermined "response time". The Powerful Inverter will produce and supply 3-Phase, 400V, sinusoidal power to the Controller. The Controller is now energized with 3-Phase power, will run the Motor in the Up direction at low speed and bring the Elevator to the immediate next floor, and opens the door automatically. Upon opening the doors, the trapped passengers shall exit and the Rescue will shut the Inverter to prevent any further battery drain. When normal power resumes, the Smart Rescue will automatically switch over the Controller to Normal Operation.

Fig. 1: Automatic Rescue Process

The Smart Rescue comprises of three-phase space vector modulated inverter and a state of the art high frequency battery charger with four operating modes of charging.

III. BLOCK DIAGRAM

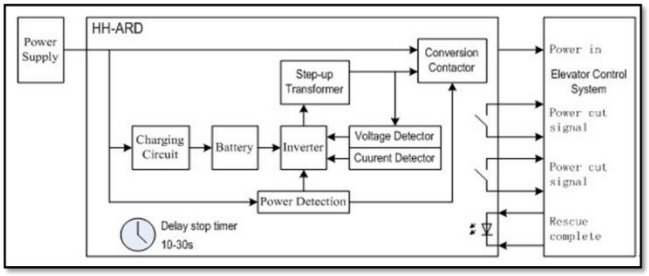

Fig. 2: Architecture

Figure shows the whole architecture. The Smart Rescue works on the principle of powering and operating the Elevator Controller at rated Voltage to perform the Rescue operation. The Rescue device interfaces with the ES Drive, which has a unique feature of "Low voltage DC operation" to operate the Elevator Motor with Low voltage Battery.

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A. Following Components Are Required

- ARD CARD
- Relay Card
- Microcontroller
- M.C.B
- S.M.P.S
- LCD
- AC Drive
- Interfacing port

IV. FLOW OF PROGRAM

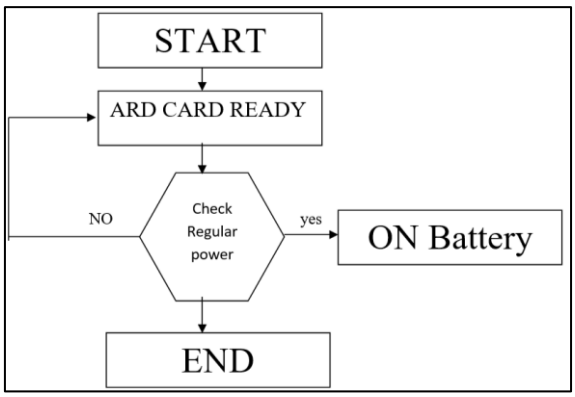

Fig. 3: Flow of Program

Figure 3 shows the flow of the ARD program to activate ARD panel for the send the warning message to the power fail. Suddenly at that time generate feedback signal that reached at relay card that tripped or send the signal to the SMPS unit and that can provide AC Driver and then after power frequency generate that was extremely high and elevator car come in working condition in back.

V. AC DRIVE & MOTOR

AC Drive is operated through the Relay Circuit. This is connected with ARD board. Than after that sense the signal and when its realized main power system was disturbed than its sent a feedback signal to the relay circuit and its switched on SMPS through Betray power and performed.

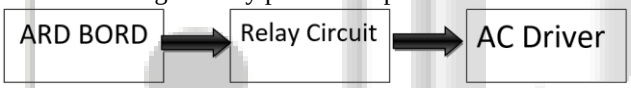

Fig. 4: Relay Switching Operation

VI. CONCLUSION

In the Elevator history now a day never fill difficulty through a power cut because of this project through when power cut and any natural disaster, earthquake or flood at that time majority case power distribution chance is high like this place its working a lifesaving equipment than through we use our system without any problem and its switching automatically so that its faster process so it's more reliable and accurate.

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