



Volume

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GROUP OPERATION OVERVIEW

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ECD System Manual

1. Introduction

This document is a brief overview of how the group operation (2 to 6 elevator controllers correctly linked together) on the 100-170 and 100-174 controllers operates.

2.1. PARKING

The first car to become idle for a preset time shall be automatically despatched to the "main" floor (LOB) to park with doors closed and become the "home" car. Any other cars that become idle after their preset times shall be sent to their "nominated free car parking floor" with doors closed and remain a "free" car.

2.2. FREE CAR OPERATION

The "free" cars shall function generally in a collective operation however the system will recognise a coincident car and landing and make the appropriate car allocation. The free cars will not respond to the following landing demands unless the "home" car is out of normal service (fire control, service control, etc).

- a. A main floor landing call.
- b. A landing call below the "main" floor unless the "free" car is at or below the "main" floor.

2.3. HOME CAR OPERATION

The "home" car shall generally be reserved for "main" floor landing demands but shall respond to other landing calls when one of the following conditions arise:

- a. A car call is registered on the "home" car.
- c. An up or down landing call is registered below the "free" car when it is travelling upwards.
- d. An up or down landing call is registered above the "free" car when it is travelling downwards.
- f. When the "free" car is out of normal service.
- g. A landing call is registered at or below the "main" floor and the "free" car is above the "main" floor.
- h. The car is the closest car to the landing call meeting collective operation criteria.

When a demand is given to the home car, a free car shall take its place.

2.4. COLLECTIVE OPERATION

Each car shall answer calls in the order in which landings are reached . When a car is travelling in a set direction it shall answer its own car calls for the established direction, and only the landing calls for that direction provided it is the nearest car travelling in the required direction.

A car shall not reverse until the furthest car call or furthest allocated landing call (dependant on position and direction) has been answered.

Calls shall be allocated in the following order for down calls.

1. Test lifts only in service
2. Look for the first lift at the floor of the down call with the doors closed and stationary if call not already assigned.
3. Look for the first lift above the down call with a car call to this floor.
4. Look for the closest lift above the down call going down.
5. Look for a lift above or below the down call with the doors closed with this down call already assigned to it.
6. Look for the closest lift to the down call stationary with doors closed, above or below the down call or the closest lift below the down call travelling up.

Calls shall be allocated in the following order for up calls.

1. Test lifts only in service
2. Look for the first lift at the floor of the up call with the doors closed and stationary if call not already assigned.
3. Look for the first lift below the up call with a car call to this floor.
4. Look for the closest lift below the up call going up.
5. Look for a lift above or below the up call with the doors closed with this up call already assigned to it.
6. Look for the closest lift to the up call stationary with doors closed, above or below the up call or the closest lift above the up call travelling down.

2.5. CAR FAILURE OPERATION

If a car fails to start for a call by being unable to respond to its demand for greater than twenty five seconds then all landing calls are automatically transferred to another lift. The failed car will now only attempt to start in response to a car call (it is hoped that a passenger entering the car will clear any door obstructions). If the controller corrects a problem causing it not to respond, then it shall then return to group operation.

Should a lift be removed from normal service (fire control, service control, etc.) then the remaining cars should function as a duplex.

If a lift fails to open or close its doors normally (door open protection / close protection

