



GeN2-MR

OTIS

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2013 Version



Otis

150 years of rich history, the No.1 brand in the elevator industry.

Inventor of the world's first safety elevator.

Inventor of the world's first escalator

and Service operation located in over 200 countries and a service network covering over 1,700 locations worldwide.

Annual escalator and elevator sales of more than 70,000 elevators in 12 of the world's 20 highest buildings.



Xizi Otis

As the largest joint venture of OTIS Elevator Company, Xizi Otis has developed fastest with greatest potential.

Xizi Otis boasts the largest yearly escalator and travelator capacity of more than 5,000 units And the annual elevator production capacity is over 66,200 units. In 2011, Xizi Otis has provided more than 40,000 units of elevators and escalators to above 60 countries all over the world (China included).



GeN2-MR

As a new small machine room passenger elevator, GeN2-MR is tailored to different kinds of requirements. GeN2-MR makes perfect performance on efficiency, comfort and energy saving, and thus to create a transportation environment with green technology for your building.

Rated Speed (m/s)	Load(kg)				
	630	680	800	900	1000
1					
1.5					
1.75					
2	Phase 2				
2.5					

Note: GeN2-MR will cover speed up to 2.5m/s after Phase 2 released on July 2013.

1

Polyurethane-coated Steel Belt /
Conventional Steel Rope——
Greener, lighter, tougher and more flexible



old



new

3

RBI Monitoring System/
Conventional Inspection——
Automated 24/7 belt monitoring



old



new

5

Compact GeN2 Machine/
Conventional Machine——
Refinement, high-efficiency and considerable space saving



old



new

2

Regen Drive / Conventional
Controller——Regenerate significant
clean energy and transfer to internal grid



new



old

4

LED Lighting/ Conventional
Lighting——
Higher efficiency and longer useful life



new



old

6

TFT-LCD Display/ Conventional
Segment Display——
Higher efficiency and longer useful life



new



old



Revolutionary coated steel reinforced belt



The coated steel reinforced belt:

Technology that introduced from helicopter. Greener, lighter and more robust coated steel belt replaced traditional steel rope, and led to the series of updates on traction machines and controllers, which is a fundamental breakthrough lifting technology over past 150 years.

Flexible and Durable:

Compared with traditional steel rope, only 3mm thick and 30mm wide coated steel belt is more durable, more flexible and 20% lighter.

Coated steel belt can get GeN2-MR System to the best balance between the intensity and traction force.

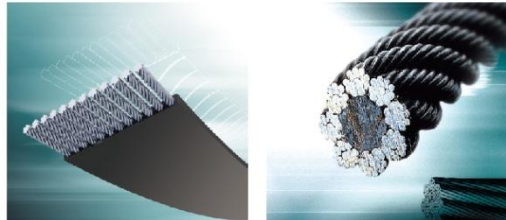
Lubrication Free:

The unique design of polyurethane-coated allows steel belt to run durably without lubrication.

Require no lubrication. There is no pollution of oil or grease in hoistway or on landing.

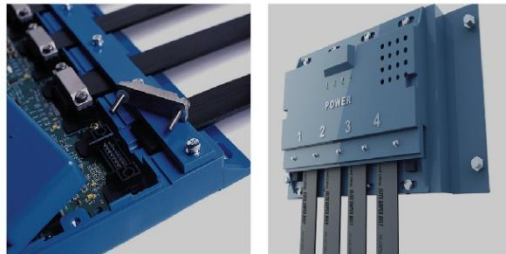
Energy Efficiency:

Simultaneously, the Polyurethane-coated increases the contact area and reduces greatly wearing of the drive sheave. The service lifetime of belt is three times of steel rope in the same situation of running and maintenance.



RBI System precision, superior monitoring

The RBI system's first-of-its-kind technology provides greater safety and peace of mind by continuously monitoring and ensuring the integrity of the CSB (coated steel belt). This automated 24/7 belt monitoring represents a significant advance over conventional inspections. Not only does this improve their reliability and extend their life but it also reduces the down-time required for inspection.



New generation GeN2 traction machine

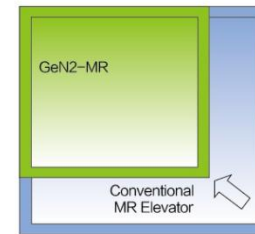
GeN2 machine is the integration of many outstanding features, such as environment protection, energy saving, space utilization and operation efficiency. The advantages of GeN2 machine are indeed remarkable.

Neither the belts nor the gearless machine with sealed-for-life bearings require any form of polluting lubricants. The low inertia gearless machine is equipped with a highly efficient PM synchronous motor of radial construction.



Thanks to the high traction force and flexibility of the belt, the GeN2 traction machine has a smaller sheave, which makes the machine 70 percent smaller than the conventional geared machines.

Gearless machine of GeN2 is only 25cm wide and 100cm long. The smaller machine could help to realize the small machine room, not only save the construction space and cut down the cost of construction effectively, and create more construction available space.

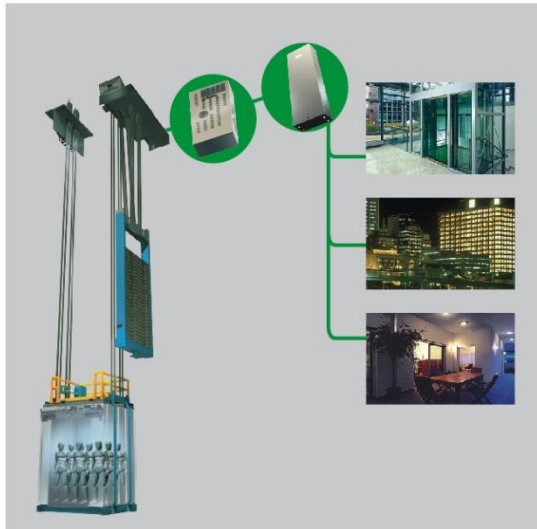


Regenerate the World

On GeN2-MR elevator, Otis brings the advantages of regenerative-drive technology to low- and mid-rise residential and commercial buildings. As the product of choice for "green" building initiatives, ReGen drives deliver substantial energy savings while helping to meet or exceed established worldwide standards.



In a typical non-regenerative drive, energy is dissipated as heat in a set of resistors when braking occurs, resulting in reduced efficiency and creating additional waste-heat loads in the building. ReGen drives feed this energy back into the building's internal electrical grid where it can be used by other loads or users connected to the same network. ReGen drives reduce energy usage by up to 75 percent compared to non-regenerative drives. The drives are so efficient that their power factor is close to unity.



Significant annual savings

ReGen drives lower overall building operating costs, delivering significant annual savings to building owners and tenants year-after-year during the life of the elevator.

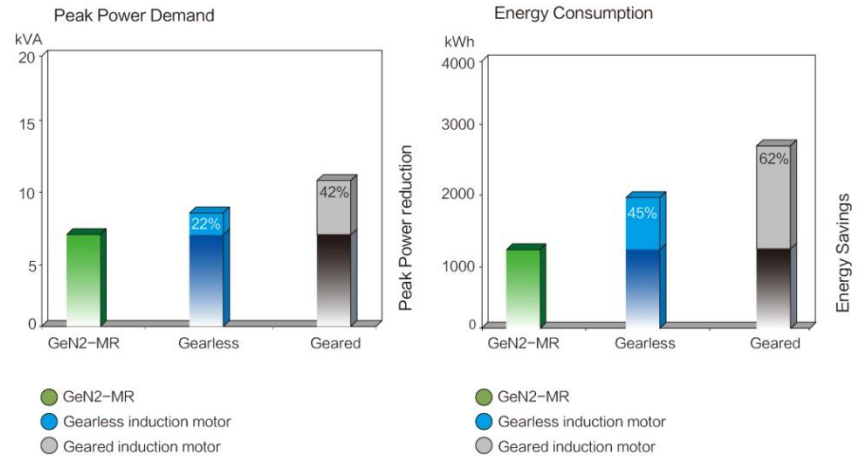
The drives help reduce peak power demand and energy consumption which influence energy costs. As a

result, both the fixed costs based on peak power demand and variable costs based on energy consumption decrease.

Electrical power is generated when the elevator travels up with a light load, travels down with a heavy load and during the elevator system deceleration. In effect, a fully loaded,

descending elevator can now provide a significant portion of the power for an adjacent ascending elevator.

The amount of energy savings depends on various parameters such as car load, speed, length of run, traffic pattern and system efficiency.



Minimizing harmonic distortion

ReGen drives produce "clean power" — resulting in less pollution of the building's electrical power system and helping to protect sensitive building equipment.

The drives minimize distortion of the incoming sinusoidal waveform line current, making Total Harmonic Distortion (THD) at nominal load typically equal to or below 5 percent, versus more than 80 percent in non-regenerative drives.

Ensure Passengers Safety

Safety Device

Gen2-MR passenger elevator keeps to OTIS Safety Standard, ensure passengers' safety as per OTIS E3 policy.

E3 policy is an Otis global policy for safety components. The requirements cover safety components design, manufacturing, qualification and traceability, which captured the most severe

requirements among all major international elevator codes and industry requirements. E3 compliance audit is led by Otis Worldwide Engineering, and approved by Otis world headquarter.

	OTIS E3 Policy	EN Code
Governor	25 times tripping test	20 times tripping test
Safety Gear	25 times freefall and runaway test	4 times freefall test
Buffer	100 times strike test	6 times strike test

Governor

Safety components comply with E3 policy—passed 25 times tripping test without component replacement.



Safety Gear

Safety components comply with E3 policy—passed 25 times freefall and runaway test without component replacement.



Buffer

Safety components comply with E3 policy—passed 100 times strike test without component replacement.



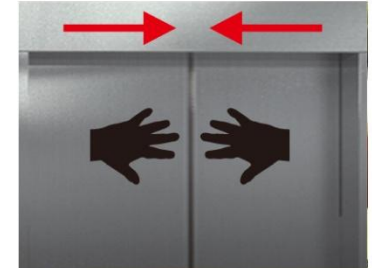
RBI Device

OTIS unique Resistance Based Inspection (RBI) device monitors coated steel belt status 24 hours a day 7 days a week.



Deterrent Device

Special Deterrent Device was equipped with door system, which prevents passenger from opening the car door, eliminates the hidden fallen trouble.



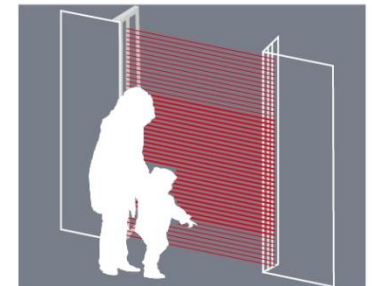
Leveling Accuracy

Compared to conventional steel rope and vector closed loop VF control system, coated steel belt ensures higher performance on leveling accuracy.



Light Curtain

As the door protection device, light curtain adopts the matured European technology to comply with high safety standard. It offers a broad entrance detection area and gives a prompt response on any passenger or goods coming into its detection area.



COP



7" TFT-LCD
UI 2 UI 15 UI 16 UI 18

10.4" TFT-LCD
UI 13

Button
BR27A


COP2
Faceplate: Hairline stainless steel®
Button: BR27A
CPI: 7" TFT-LCD

Standard Configurations
Wall: 2130 Painted steel with color w1001
Door: Painted steel with color w1001
Car Floor Type: 4901PVC

Material: Hairline stainless steel

Note:
1. When car panel is 2130, the default finish of COP faceplate is in the same as car panel's finish.
2. More aesthetics choices please refer to Aesthetics Brochure.

Hall Call Panel




HBP11-A
HBP11-STN

HBP
Standard HBP: HBP11-STN
Optional HBP: HBP11-TFT, HBP11-B, HBP2

LCD Type: 4.3" STN-LCD
Material: Hairline st. steel

HBP11-TFT

 LCD Type: 4.3" TFT-LCD Material Interface: Hairline st. steel UI 2	 LCD Type: 4.3" TFT-LCD Material Interface: Mirror st. steel UI 15	 LCD Type: 4.3" TFT-LCD Material Interface: Hairline st. steel UI 16	 LCD Type: 4.3" TFT-LCD Material Interface: Mirror st. steel UI 18
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HBP 11-B



- ① Hall Position Indication
- ② Parking Key Switch
- ③ Hall Lantern
- ④ Separated Hall Button Box

① ② ③ ④

HBP12

HBP12-TFT



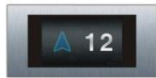
Standard Faceplate:
Hairline Stainless Steel

Optional Faceplate:
Mirror Stainless Steel

Standard Display:
4.3" TFT-LCD

Standard Button:
BS34E (Touch button)
BS34F (Square Stainless Steel Button)

HBP12-B



Benefits & Character

A. Ultrathin design will help HBP12 becomes one of construction completely.

B. Installation conveniently as HBP11

Optional Ceiling



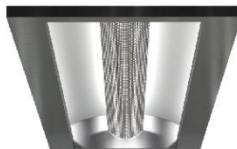
4081L
Material: W1003
Painted Steel



4087L
Material: M6004
Painted Steel



4094L
Material: W1003
Painted Steel



4180L
Material: M6004
Painted Steel

Optional Cabin



2120
Wall: Hairline
Stainless
Steel



2110
Wall: Titanium
Mirror Stainless
Steel



2220
Wall: Hairline
Stainless Steel
& Mirror
Stainless Steel



2124
Wall: Hairline
Stainless Steel
& Mirror
Stainless Steel

Optional Flooring



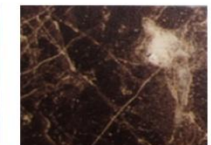
4901 AB-8305 (PVC)
Size: 450mmx450mmx3mm



4901 AB-8309 (PVC)
Size: 450mmx450mmx3mm



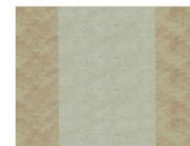
4901 KC-09207 (PVC)
Size: 600mmx600mmx3mm



4901 TM-746A (PVC)
Size: 457mmx457mmx3mm



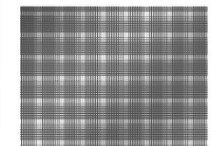
4901 TW1776 (PVC)
Size: 152.4mmx914.4mmx3mm



4901 AH (PVC)
Size: 450mmx450mmx3mm



4901 AE (A-105) (Rubber)
Size: 500mmx500mmx3mm



4901 AN (Stainless Steel)
Thickness: 3mm

Standard Function	Description
ACP(mode1) – Anti Crime Protection–mode1	Anti-Crime Protection forces each car in the group to stop at a pre-determined floor and open its door. This allows a security guard or receptionist at the floor to visually inspect the passengers of the elevator before the car completes its run.Mode 1–ACP is activated via installation parameters
ADO –Advanced Door Opening	In order to accelerate traffic, automatic door opening starts while the elevator car approaches a landing. NOTE:A code description of this feature is required in the wiring diagram
ALARB – Alarm Bell	An alarm sound signal will be given out to the outside in specific conditions
ANS –Anti– Nuisance Car Call Protection	If there is only one passenger in the car, and an excessive number of car calls is registered, nuisance is detected and all car calls will be canceled, requiring registration of a proper number of calls. The number of acceptable car calls is programmable; it is typically three (3). The passenger load value is set to 10% of the elevator rated load value.ANSC Anti–Nuisance Car Call Protection (Car) Discrete load weighing under car.
CBC – Cancel Error Calls	Before the car starts, the registration of a call or operation can be canceled by double click of this button. After the car starts, registration cancel will not allowed for the sake of passengers'safety
CFT –Cafeteria	More open time for the cafeteria floor to meet with the requirement of the extra passenger flow
DOB/DCB –Door Open/Close Button	The door open button in the car operating panel permits to open or re-open an automatic door, and to keep it open/close it by constant pressure
DCBL/DOBL – Door Close/Open Button Light	Door Close/Open Button will highlighted if the buttons are pressed as a success echo
DTC – Door Time Protection– Close	If the car door does not close completely within an adjustable time (default 20s – should be longer than the nudging time) after the door close command, the elevator will enter the [DTC] mode: *Remove itself from group operation, i.e; Extinguish hall or car direction lanterns; Hall calls will be assigned to other elevators in the group; Open its doors and sound the buzzer in the car–operating panel; Attempt to close the doors again after 10s; After three unsuccessfully retries, the car will be shut down with its doors open and deenergized; Pending car calls will be cleared
DTO –Door Time Protection– Open	If the car door does not open completely within an adjustable time (default 20s) after the door open command, the elevator will:*Remove itself from group operation, i.e; Extinguish hall or car direction lanterns; Hall calls will be assigned to other elevators in the group; Optionally the buzzer in the car operating panel will sound; Close its doors and run in the current direction to the next landing, it will reverse at the terminal landings and move in the new direction; It will stop at the next floor and open its doors. After three retries at consecutive landings, the car will be shut down with its doors closed; Pending car calls will be cleared.
ELTU – Emergency Light	Emergency light in the car will start whenever there is a power cut
ERO –Electrical Recall Operation	Emergency electrical operation is obligatory for machines where the manual effort to raise the fully loaded car exceeds 400 N. Normal mains or standby power supply is required for "ERO". The emergency electrical operation switch, its push buttons, and signal lamps shall be placed in the machine room that the machine can readily be observed during operation.

Standard Function	Description
FAN – Car Fan Control	There is a switch to control the car fan on or off.
FCL – Full Collective Operation	All car and/or hall calls registered are answered in the order in which the landings are reached. Direction of travel will be established by the first car command / hall call registered.
HCC – Hall Call Cancel	This feature allows the passenger to delete a hall call if a hall button was accidentally pushed. Hall call is deleted if the hall button is pushed twice again (within approximately 1 second).
ICU –3– Intercommunication Unit	Car – porter's lodge – machine roomThe intercom system is primarily an emergency alarm device, which by definition is required to call for outside assistance if necessary. It shall be activated by the alarm button in the car operating panel.
LNS – Load Non Stop	When a car is loaded to a predetermined percentage of its capacity, it is considered 'full'. Additional passengers would be unable to enter. If the weight sensing device has detected full car load, the car will bypass further hall calls. The hall calls remain registered and will be served on the next trip (single car), or by another elevator (group). Operation of the weight sensing device will not effect the stopping of the car in response to car buttons. The passenger load value is set to appr. 80% of rated capacity
LWS – Overload Protection	If the load exceeds the rate load, the sound signal will be given out by speaker, and 'OVER LOAD' will be displayed, the car door will not close, the elevator will not start.
NTSD – End Protection	If the speed is not slowed to the preset value while the car reach the end floor, a forced deceleration will be carried out by system in order to protect the safety of the car
PRK – Parking	Elevators in a same group will park on different floors once spare in order to shorten the response time
RIN – Re-initialize	When the power reenclosed from a cut, position signals can not be given or the position can not be detected, the car will move to lobby and reinitiate. After that the floor info can be displayed and the elevator backs to normal
RLEV – Relevelling Operation	Stopping errors shall be corrected by relevelling. The size of a possible stopping error depends on the type of drive and the accuracy of the position sensors.
TCI –Top of Car Inspection	The inspection operation switch and its push buttons and an emergency stopping device 'TES' shall be placed on the car roof that they are readily accessible.

Optional Function	Description
ARED – Automatic Rescue Device	This device is used for rescue operation in case of power shutdown, it is powered by a rechargeable battery, when a sudden power cut happens, a sound signal will comfort the trapped passengers, then the car will move towards to the near floor, keep the door open to the passengers.
BA –Building monitor ports via dry contacts	Elevators with BA function can provide scattered elevator status for computed management of the buildings, such as running directions, floor numbers, safety signals, door signals.
CCM – Passing Chime in Car	On the top of the car, a bell ring will be given out when the car stops at the destination floor NOTE: 1、 Optional CCM if User Select Voice Device 2、 The CCM can not be selected with SSM at the same time
DCL –Down Collective Operation	Down Collective Operation The system has UP hall buttons at the bottom floor and/or at the main landing only, all other floors have DN hall buttons only.
DHB – Door Hold Button	Pressure on the Door Hold button 'DHB' in the car operating panel opens the door and keeps the door open for a specified adjustable door hold time.For group control, When a certain elevator is in door–open ready state, system will automatically distribute call signals to other elevators to manage.
EAC – Elevator Air Conditioner	The elevator air conditioner is designed specially to adjust the air in car, and it is an independent circulating system. The conditioner can keep the temperature, humidity, purity and flow velocity in a comfortable range for human, so as to make a satisfied space in car, through by the condensation water atomization, automatic switching working mode when the water level is over limit and water level limit protection, depurating the air.
EFO – Emergency Fireman Operation	Upon recognition of fireman's service, a car shall return non–stop to the designated return landing and park with the doors fully open. Optionally the doors shall be closed again after 15 seconds with the door open button operational.The designated return landing can be altered by issuance of the input signal Alternate Service Landing 'ASL' in which the car shall return to the predestinated alternate landing.
EFS –Emergency Fireman Service (automated)	EFS shall automatically place the car on independent service when the elevator is at the designated return landing from Phase I with the doors fully open.
EPO – Emergency Power Operation	This feature can only be used if the building is equipped with an emergency power generator. In case that regular power supply shuts down, the power supply of cars turns to Emergency Power, then cars in group except cars in inspection mode run to defined landings (or next land–ings.) one by one. After arrival to rescue position, the cars open doors and let passengers out. It's available to define a part of cars in group for normal service during EPO which is needed by some users. The return to full normal operation is done automatically when regular power supply is re–established.
EQQ – Earthquake Operation	Once an earthquake has happened, all the calls and operations will be cleared after the earthquake signal. The car will stop at the nearest floor to unload passengers.

Optional Function	Description
FSL – Fireman's Service Indicator	This function can be selected automatically when EFO or EFS is selected , and FSL can't be selected when EFO or EFS is not selected. It will indicate in the car while turn into EFO/EFS.
HCM – Hall Chime	The Hall Chime fixture can be a substitute for hall lanterns and gong boards. It includes up and down lanterns, and a speaker. The chime is transmitted via the audio link to speakers in the lanterns.
ISC – Independent Service	This function is designed for meeting customers'special needs. When switched on independent service the elevator will only answer any registered car call deviating from group control, regard–less of the hall calls while opening or closing the door by manual control and operating according to customers' registered signals.
UCM – Unintended Car Movement	Unintended car movement is detected in automatic operation as well as all manual operating modes. The intent of the code requirements is to provide protection when the movement is NOT intended to occur. Please contact CLC if require the CE certification

Optional Function	Description
ACP(mode2) – O* Anti Crime Protection– mode2	Anti–Crime Protection forces each car in the group to stop at a pre–determined floor and open its door. This allows a security guard or receptionist at the floor to visually inspect the passengers of the elevator before the car completes its run. Mode 2– ACP is triggerd from keyswitch.
AES –Area Elevator System O*	Computers carry out district monitor system. This function can provide computed monitoring for all the elevators in this district and offer the BA for the computed management of the building.
AMS –Area Monitoring Screen O*	It can be installed in the porter's lodge, simply display the condition signals by LED indicators and lock/unlock the elevator.
EFS2 – Emergency Fireman Service (manual) O*	"EFS" function isn't provided for abroad client at present, but the EFS electrical interface can be supplied.While the switch with lock is positioned start, EFS will be triggered to clear all the hall calls, and the car will response only to commands from the car, to go with the fireman elevator.

O*=Need confirmed by factory.

