

KONE RESOLVE™ WITH UNITY DRIVE

Modernization of elevator electrification

Improved performance, fast installation

KONE ReSolve™ with Unity Drive is a complete elevator drive and electrification solution for high-rise and high-performance modernization. The solution consists of KONE ReSolve™ electrification and drive system that utilizes the latest and leading technology in the DC-drive segment. KONE ReSolve™ with Unity Drive, with rated speeds up to 7 m/s, provides high performance with low energy consumption and low harmonic distortion.



Emily Morgan Hotel, San Antonio, Texas, USA

Electricity consumption reduced by 45%

The Emily Morgan Hotel building is a local landmark in San Antonio, Texas, built in 1924. When the hotel modernized its elevators in 2007 using KONE ReSolve with Unity Drive, they not only enhanced service with improved passenger handling capacity and modern controls. They also reduced electricity consumption by 45.7% in kWh.

Key benefits

- Complete modernization solution for high-rise electrification systems
- Replaces relay and microprocessor based control systems
- Fast installation process reducing customer downtime
- Plug and play configuration making the system easily expandable

Eco-efficient

- Extremely high power factor - close to 1
- Low energy consumption
- Full regenerative energy recovery as standard

Safe and convenient

- Complies with EN81-80 (European Safety Standard)
- Complies with EN81-70 (European Accessibility Standard)
- Improves user experience with ultimate ride comfort and leveling accuracy
- Can be used with KONE Polaris Destination Control Systems
- Clean harmonics - total harmonic distortion <8%. Reduces interference with sensitive electronic equipment

Reliable

- Typical hoisting function lifetime 25 years, depending on elevator usage

KONE ReSolve™ with Unity Drive

KONE ReSolve™ with Unity Drive is designed especially for use in demanding applications such as office buildings, hotels, medical facilities and residential buildings.

High power factor

The high power factor (P.F. >0.95) minimizes the consumed power supply kVA compared to lifting power. A high power factor minimizes the stress on the building’s electrical supply system. This makes it possible to use smaller fuses and eliminates the need to upgrade the building supply cables to the elevators as part of the modernization.

Energy efficiency

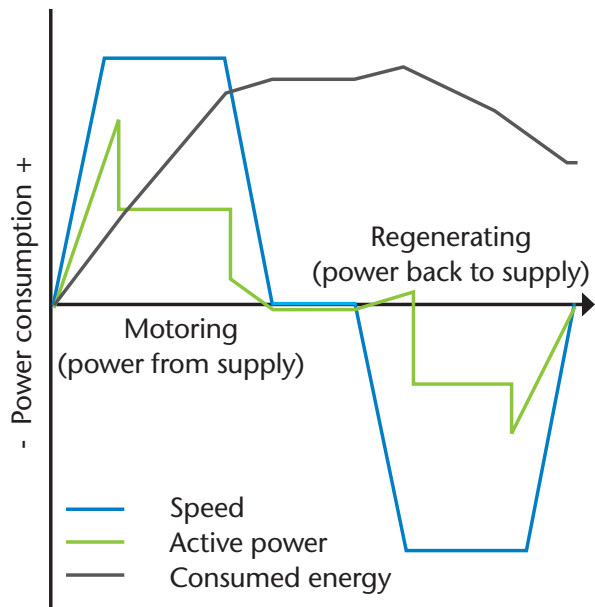
KONE ReSolve™ with Unity Drive reduces energy consumption by 40% compared with Motor Generator (MG) sets and by 25% compared with DC-SCR (SCD -type) drives.

Full line regeneration provides a high-performance elevator solution with significantly lower energy consumption. The line regeneration feature enables the elevators to regenerate almost as much power when they descend as they consume when they ascend. This regenerative feature saves considerable energy (up to 50%), substantially cutting the building owner’s operating costs and reducing the environmental footprint.

Low harmonics distortion

Low harmonics distortion is built into the drive, eliminating the need for additional filtering solutions. The low harmonics distortion (THDI < 8%) eliminates interference with other electrical equipment, and reduces the stress on the building’s electrical system. The harmonics level meets the requirement of IEEE 519 at the drive terminals.

KONE ReSolve™ with Unity Drive	
Max Motor Current Range	250A
Total harmonics distortion %	<5 (125 A) <8 (200 A, 250 A)
Power factor	>0.95
Speed	2 - 7m/s
Max Travel	250M
Max Floors	63
Max Elevators in Group	8
Max Starts/year	500,000
Levelling accuracy	+/- 4mm
Typical lifetime of electrical components	25 years



For more information go to KONE.com