REGENERATIVE DRIVE – 10K

For mid- to high-rise building owners, elevator energy usage is a major cost. Reducing this energy usage without lowering elevator performance makes business sense and provides significant cost savings.

To meet the energy-saving demands for elevators and their owners, TK Elevator has perfected the Variable Voltage Variable Frequency (VVVF) AC regenerative drive, known as the 10K Drive. It's available with our TAC32T traction elevator controllers with the exception of the evolution product line. The drive uses advanced braking technology to recapture energy, which would have been lost as heat — and feeds this energy back into the building's power grid.

Features

- In-house designed VVVF drive, intended for new installations and modernization applications that fall within the product ratings. Perfect for use with the TAC32T controller, except not available on the evolution product.
- 10K Drive operates only in the regenerative mode.
- A regen disable drive is available for jobs where line regeneration is prohibited. This enables switching to non-regenerative operation when required, such as emergency power conditions.
- Drive with regen disable includes regenerative resistors.
  - » For 72" (1829 mm) controllers the resistors are mounted in a separate enclosure in control room or machine room.
  - » For 84" (2134mm) controllers with drive under 60HP, the resistors are installed in the controller.
  - » For 84" (2134mm) controllers with drive 60HP and above, the resistors are mounted in a separate enclosure in control room or machine room.

Benefits

- Fully regenerative digital drive, making this a very reliable drive.
- Incorporates the latest braking technology designed into an integrated brake controller.
- Incorporates regenerative control that recaptures the excess energy from the motor and supplies it into the building power grid. This reduces energy consumption and lowers machine room heat.
- Improved grounding and shielding to reduce radiated RF emissions.
- Insulated-Gate Bipolar Transistor (IGBT) Switching Frequency Control can be adjusted for the optimum condition between audible noise and junction temperature.

Regenerative drive specifications

- Six sizes available:
  - » 480V input – 30HP (40 Amps.)
  - » 480V input – 40HP (54 Amps.)
  - » 480V input – 60HP (80 Amps.)
  - » 480V input – 80HP (106 Amps.)
  - » 480V input – 120HP (160 Amps.)
  - » 480V input – 160HP (212 Amps.)
- Short Circuit Current Rating (SCCR): 5kA or 10kA
- 5kA when 50 hp or less and 600V or less.
- 10kA when over 50 hp and 600V or less.
- Average life span: 15 years
- Complies with:
  - » ASME A17.5 / CSA B44.1
  - » EMC Immunity: ISO 22200, EN 12016
  - » EMC Emissions: ISO 22199, EN 12015

Motor/machine configurations

- Induction AC motor; gearless machine (VVVF).
- Induction AC motor; geared machine (VVVF).
- Permanent Magnet AC motor; gearless machine (VVVF).

Power rating		VVVF	
hp	kW	Regen	Non-Regen option
30	22	yes	yes
40	30	yes	yes
60	45	yes	yes
80	60	yes	yes
120	90	yes	yes
160	120	yes	yes

Drive ratings							
Power rating	hp/kW	30/22	40/30	60/45	80/60	120/90	160/120
Input voltage, nominal; AMS BU application	Vac, 3Ph	480					
Input voltage range; rated	Vac, 3Ph	±5%					
Supply voltage imbalance, rated	Vac, 3Ph	4%, line-to-line (not to exceed Supply voltage range; rated)					
Supply frequency		50 Hz or 60 Hz					
Supply frequency range; rated		±5% Hz					
Output current nominal	Amps; rms	40	54	80	106	160	212
Output current accel	Amps; rms	100	135	200	265	400	530
Duty cycle		50%	50%	60%	70%	70%	70%
Starts per hour		180					
Mechanical dimensions – L x W x D	inches (mm)	32.68" x 15.35" x 13.39" (830 × 390 × 340)			50.79" x 18.70" x 13.39" (1290 × 475 × 340)		

For more information, visit **tkelevator.com/us** or contact your sales representative.