Motion Control Engineering, Inc. (MCE)

SmarTraq™ Door Operator Upgrade Kit

State-of-the-art, limitless "true" closed-loop technology for modernization and repair

MCE applies its expertise in non-proprietary controllers and closed-loop drives to the elevator door operator market with the introduction of the **SmarTraq Door Operator Upgrade Kit** — an innovative, limitless, closed-loop door operator kit ideal for modernization or repair of existing operators.

Door operation is the most visible aspect of elevator service and the source of the majority of service calls. The SmarTraq upgrade kit improves door performance, reliability, and maintainability.

Superior performance, reliability and maintainability

The SmarTraq upgrade kit includes a programmable inverter drive and a powerful AC brushless motor, providing the advantages of closed-loop, limitless operation while allowing you to retain the legacy chassis, header, track, hangers, and linkage already in place on the elevator cab. The SmarTraq inverter drive and motor replace obsolete mechanical circuits, cams, and resistors with digital controls for precise door operation and reliable performance.

"Limitless" technology means that limit signals, formerly generated by troublesome switches, are now digital values generated electronically by the drive unit. Limitless technology reduces the need to maintain and adjust mechanical switches and speeds installation and adjustment.

Using the same non-proprietary, closed-loop, drive control philosophy that distinguishes MCE controllers, the SmarTraq upgrade kit readily interfaces, mechanically and electrically, with most door operator installations. A powerful permanent magnet synchronous motor with built-in position encoder and velocity sensor is standard in all upgrade kits.

The SmarTraq inverter drive continuously determines the precise force necessary for optimum door operation, ensuring that the heaviest doors will open and close as efficiently and smoothly as the lightest. Easily-set parameters minimize the effect of external influences such as wind loading, temperature extremes, and track debris accumulation.

Applications

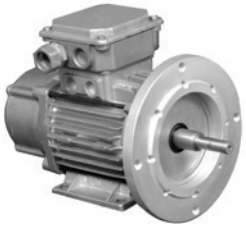
- Modernization
- Repair

Benefits

- Superior reliability reduces downtime
- Easy adjustment — no special tools required
- Reduced installation time
- Less maintenance
- Available for most existing door operators
- Improved performance
- Adjusts for lobby door mass and wind loading

Features/options

- Permanent magnet, brushless AC motor
- Integrated encoder and motor speed sensors
- Inverter drive-based controller
- Built-in short circuit protection
- ASME A17.5, CSA-B44.1 compliant
- Bolt-for-bolt motor replacement
- Selectable input voltage (120, 208, 240 VAC 50/60Hz)



SmarTraq Otis 6970 Motor

SmarTraq Programmable Inverter Drive

Nidec All for dreams

MCE Motion Control Engineering®

The leader in non-proprietary controllers, technical services and repair solutions for elevator modernization.

www.nidec-mce.com
800.444.7442
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SmarTraq™ Door Operator Upgrade Kit

SmarTraq specifications

Door operator drive technical data	
Input voltage	120, 208, or 240 VAC, 50/60Hz, single phase
Output voltage	3-phase, 30 VAC, 9A (26A peak)
Power requirement	300 VA
Controller type	Closed-loop, distance and velocity feedback, limitless
Door motor technical data	
Type	Three-phase, AC brushless motor with polypole permanent magnet rotor and built-in digital encoder and motor speed sensors
Motor	0.564 HP, 3-phase AC, 8 pole, 30 volt, 9A (26A peak), 0-2000 RPM, 0-133Hz
Encoder	640 PPR (pulses per motor revolution)
Elevator control interface data	
Input signal level	Isolated 28 VAC sourced from SmarTraq
Output signals	Door close limit Door open limit Limit 1 (software adjustable from closed to 50% of door open position) Limit 2 (software adjustable from open to closed door position)
All output signals	N.O. / N.C. contact (10 Amp 125 VAC)

Supported operators

Westinghouse

- A Series
- B Series
- BB2
- E Series
- EZ
- HY
- MG

Haughton

- T
- T1
- TH

Montgomery

- MAC Series

Dover

- DC Series
- HD Series

Otis

- 6970
- 7300
- 7782
- OVL (11.33:1)
- OVL (6.67:1)

GAL

- All models

Armor

- C4

Q & A

What is the difference between a SmarTraq Complete Door Operator and SmarTraq Upgrade Kit?

A SmarTraq Complete Door Operator package includes the SmarTraq motor, SmarTraq inverter drive and all necessary track, hanger and operator arm assemblies. SmarTraq Upgrade Kits include the SmarTraq motor and SmarTraq inverter drive to replace those in an existing installation.

How does closed-loop technology work?

When SmarTraq is calibrated, an ideal door movement profile is established. During operation, SmarTraq constantly monitors actual door position and compares it to the stored ideal. If the door lags, speed is increased. If the door moves ahead of the ideal, speed is decreased. The result is that the actual position is constantly matched to the stored ideal position — the loop between control and actual motion is closed.