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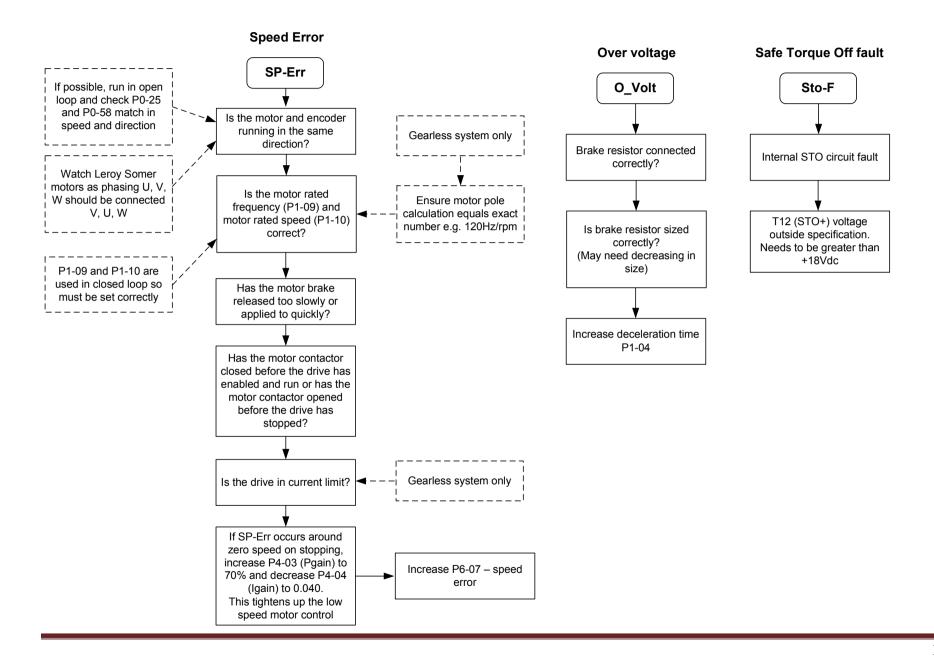
Document number	MCW-Elevator-005
Revision	0.6
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Product	Optidrive Elevator

Title	Optidrive Elevator – Troubleshooting Guide

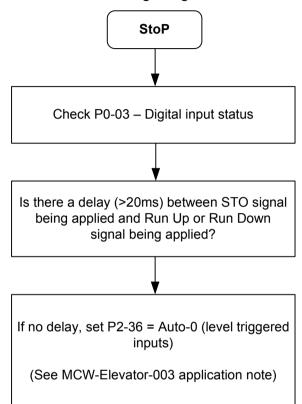
Summary	This document gives information on troubleshooting Optidrive
	Elevator when various trips etc. are seen during commissioning

NOTE: Please read this document in conjunction with the Optidrive Elevator User Guide.

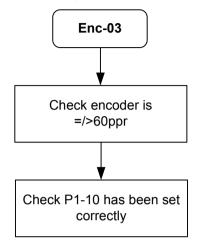
Over Current Trips Permanent Autotune issue O-I **hO-I** trips (P4-01 = 0 or 1)Check autotune parameter settings Motor contactor issue are similar to are the motor contactors Occasional default settings Possible motor/ closed before drive **hO-I** trips motor cable fault (P7-01 to P7-04) enables and runs? (especially on (phase to phase start) Reduce current limit or phase to earth P4-07 (200% to 175%) fault) Are motor contactors closed properly during an Possible drive Autotune? fault Are acceleration and deceleration ramps too fast? Is encoder feedback stable Closed loop IM system in P0-58? **O-I trips** – Over current trips detected by the drives software. Usually a control issue. Gearless system only Incorrect encoder offset **hO-l trips** – Over current trips detected by the drives hardware. Usually a motor or drive fault.



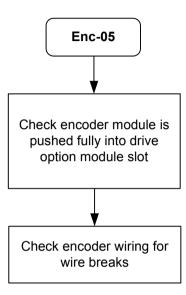
StoP on display when Run Up or Run Down signals given



Incorrect encoder PPR count set in parameters



Encoder channel fault



Motor stalls during take-off

In V/f mode – P4-01 = 2 Increase P1-11 – voltage boost

In vector mode – P4-01 = 0 or 1

Make sure the magnetising current value in parameter P7-04 is correct for the motor. This may need increasing if there is a lack of torque in the motor.

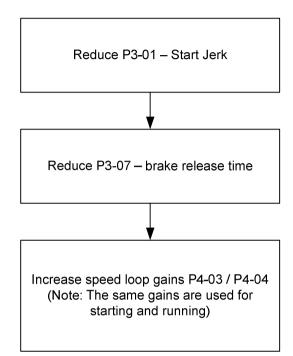
See Elevator starting torque info. document

Operate with an encoder is closed loop

Rollback during take-off

Brake released set up Increase P3-07 (brake release time) In V/f mode - P4-01 = 2Increase P1-11 – voltage boost In vector mode - P4-01 = 0 or 1 Make sure the magnetising current value in parameter P7-04 is correct for the motor. This may need increasing if there is a lack of torque in the motor. See Elevator starting torque info. document Operate with an encoder is closed loop

Start - Jerk



Steady state vibration/resonance

Run drive in V/f mode (P4-01 = 2) to see if vibration still present. If still present, could be mechanical issue

Check drive not in current limit (Check output current <150% P1-08)

> Reduce speed loop gains P4-03 & P4-04

Motor Rated Speed P1-10

If it is required to display RPM but without e.g. 1500rpm for a 4 pole motor

By pressing the Navigate button on the drives display, the display will cycle as below:

Frequency - Hz Current - Amps Power – kW Motor speed - RPM

Care should be taken when setting speed parameters as all parameters that were displayed in Hz will now be displayed in RPM

For example: P1-01 – Maximum speed will show 1500rpm

Arriving at floor too fast

Decrease flare ierk P3-04 (deceleration rate)

P0-03 = 00000 with nothing connected to digital inputs.

00000 - DI 3 (terminal 4) 0 = Levelling speed /1 = High speed

00000 - DI 4 (terminal 6) 0 = Terminal 4 selection / Inspection speed

00000 - DI 5 (terminal 10) 0 = Terminal 4 selection / Intermediate speed

Each digit represents a digital input:

00000 - DI 1 (terminal 2) 1 = Run Up

00000 - DI 2 (terminal 3) 1 = Run Down

Jerk felt when motor stops

Reduce stop jerk P3-05 (S-ramp levelling duration)

Motor Speed does not increase to requested speed (remains at a low speed)

If the motor speed doesn't increase when

Check motor brake is off and motor not jammed etc.

being requested to go 'at speed', the drive may be in current limit (output current higher than motor rated current and 'dots' on display flash

P0-03 gives the status of the Digital Inputs. This can be checked to see what speed is being selected

P0-04 gives the pre-ramp speed reference so this is the speed the drive should try to achieve

The issue may be caused by the magnetising current being too high causing the motor to saturate and go into current limit (with P4-01 = 0 and autotune carried out with incorrect setting of power factor)

Re-autotune the drive to the motor

If the power factor of the motor is known. set P4-01 = 0 and set P4-02 = 1 and autotune

If the power factor of the motor is NOT known, set P4-01 = 1 and set P4-02 = 1 and autotune

slip compensation being enabled, P1-10 can be set to the sync speed of the motor

Parameters affected

P1-01 – Maximum speed

P1-02 - Minimum speed

P2-01 – Levelling speed

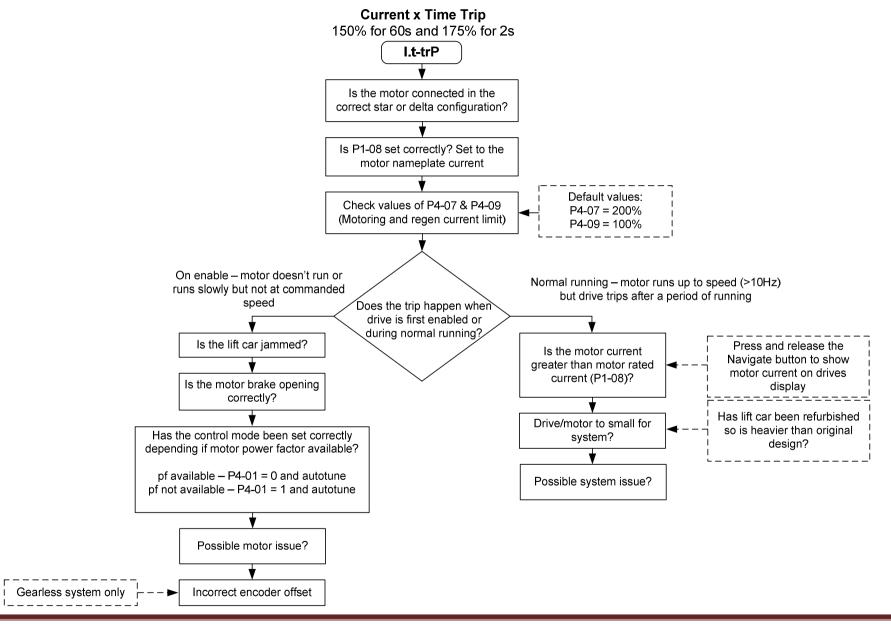
P2-02 - Run speed

P2-03 – Intermediate speed

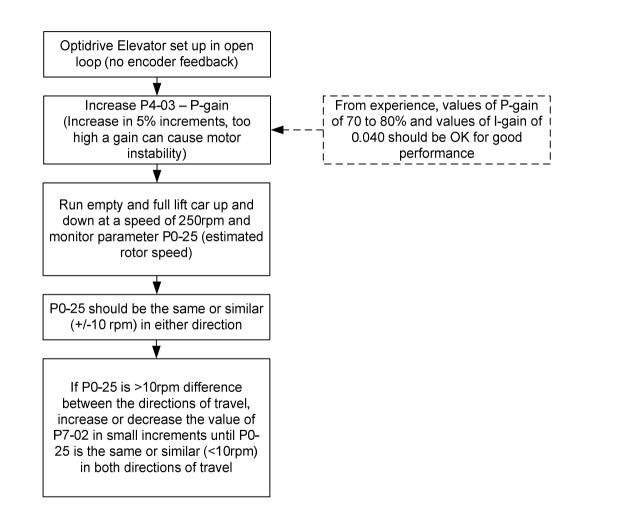
P2-04 – Inspection speed

P2-05 - Rescue mode speed

P3-09 - Brake apply speed



Elevator car stops correctly at floor in one direction but misses floor in other direction



Regen current limit automatically increases deceleration ramp time during stopping

Increase parameter P4-09

Make sure braking resistor is sized correctly for application.

Reduce ohmic value of braking resistor taking into account minimal allowable braking resistor value

Motor brake connection

The motor brake must not be connected to the output of the drive.

The motor brake must have its own supply which can be controlled either by the drive or by the lift controller

The drives on-board relay, which can be set to control the brake must control a power relay/contactor which supplies the brake.

Autotune trips

If the drive trips on an Autotune failure – AtF-0X, check:

- Connections between drive and motor
- Motor connections
- Resistance between motor phases
- The drive and motor power ratings are similar
- Motor contactors between drive and motor are firmly closed during autotune

Increasing starting torque on an old motor (without motor power factor)

