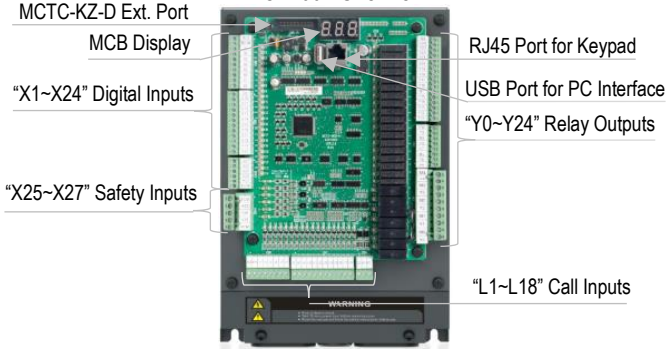
# NICE100+ Easy Setup Guide V0.0

**Safety Disclaimer:** Read and comply the safety instructions given in the NICE100+ User manual before performing any installation, operation and maintenance of the equipment. Must follow the NICE100+ user manual and NICE100+ Electrical Wiring Diagram for complete installation and commissioning of the NICE100+ Controller

**Aim:** This document is aimed & prepared to give basic commissioning and finetuning procedure for NICE100+ only

**NICE100+ Overview**

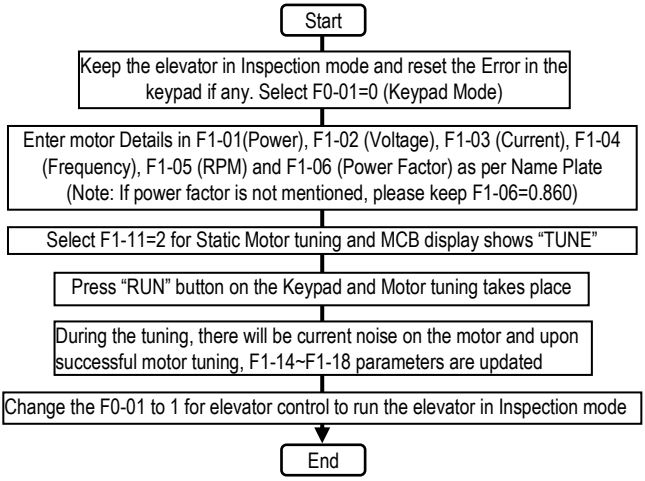



| Product Technical Data | | | | | |
|---|---|---|---|---|---|
| Model | Input Current (A) | Output Current (A) | Motor Power (kW) | Braking Resistor (Ω) | Braking Power (W) |
| 3Ø, 380~480V (-15% to +10%) | | | | | |
| NICE-L-I-4003 | 10.5 | 9.0 | 3.7 | 170~135 | ≥1100 |
| NICE-L-I-4005 | 14.8 | 13.0 | 5.5 | 115~90 | ≥1600 |

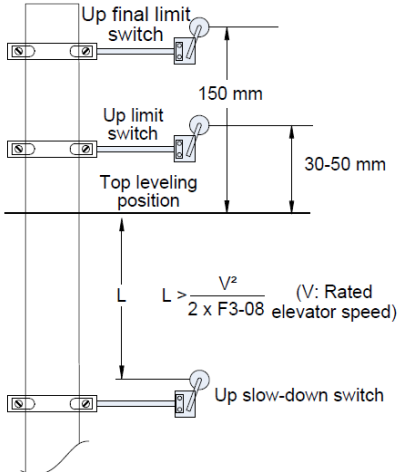
| Product Dimensions | | | | | | |
|---|---|---|---|---|---|---|
| Model | Horizontal Holes distance (A) | Vertical Holes distance (B) | Height (H) | Width (W) | Depth (D) | Bore Dia |
| NICE-L-I-4003 | 148mm | 235mm | 248mm | 170mm | 145mm | 5.5mm |
| NICE-L-I-4005 | | | | | | |

## Motor Tuning Procedure:

Motor Auto-tuning is required before start-up of the motor in any mode to obtained precise control parameters



## Inspection operation:



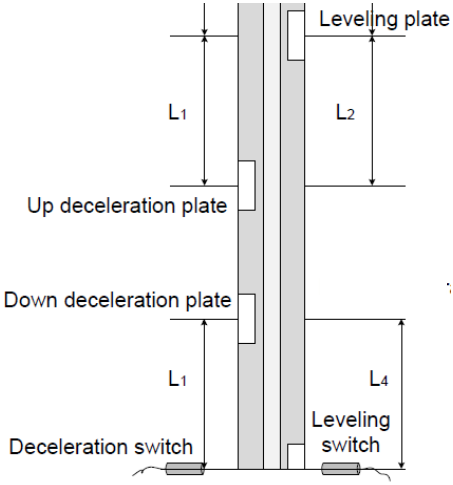

- Refer the up-terminal hoist-way switches installation and follow the same distance & position for bottom switches also
- All necessary field equipment installation and wiring must be done as per the standard needed for inspection operation
- Make sure that all elevator safeties are connected and functional, verify the function at X25, X26 & X27 of MCB
- Direction limit switches (X9 & X10) and terminal slowdown switches (X11 & X12) should be in operation
- Inspection command (X4) and directional inputs (X5 & X6) needed to be in proper function

**Set the following parameters**

| | | |
|---|---|---|
| F0-04 | Elevator Rated Speed | 0.500m/s |
| F3-11 | Elevator Inspection Speed | 0.250m/s |

- Now elevator can be run in Inspection mode from Cartop station or Cabinet station

## Normal Operation:




- Commission the Elevator Door operation (Auto door /Manual door)
- Place the Floor Stopping/Door zone sensor and floor to floor slowdown sensor as per the requirement

| | | |
|---|---|---|
| Speed in m/s | 0.670 | 1.000 |
| Distance in mm | 900~1000 | 1300~1500 |

**Set the following Parameter**

| | | |
|---|---|---|
| F0-03 | Elevator Normal Speed | 0.480m/s |
| F6-00 | No of Floor | 5 |
| F5-24 | X24 Input for Floor slowdown | 55 |

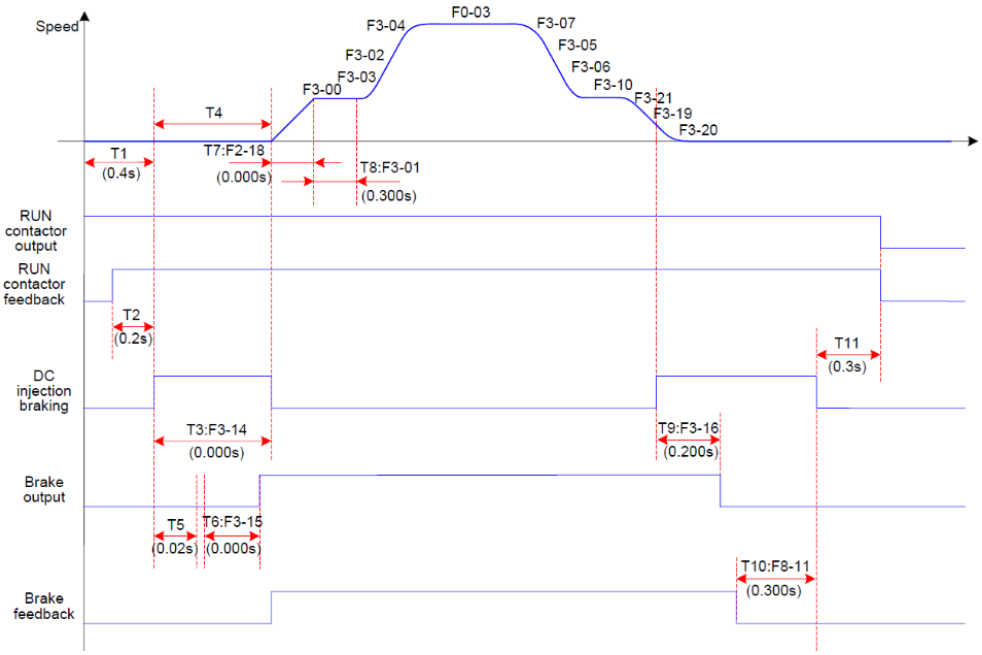
**Parameter setup for elevator rated speed of 1.000m/s**

| | | |
|---|---|---|
| F3-02 | Acceleration rate | 0.500m/s2 |
| F3-03 | Acceleration jerk time 1 | 1.000s |
| F3-04 | Acceleration jerk time 2 | 1.000s |
| F3-05 | Deceleration rate | 0.600m/s2 |
| F3-06 | Deceleration jerk time 1 | 1.000s |
| F3-07 | Deceleration jerk time 2 | 1.000s |

- Maintain the default value for the above parameter for elevator speed upto 0.670m/s
- Call function terminals are connected at L1 ~L28 terminal of MCB to the field and are programmed in F6-11 to F6-38 parameters
- Input terminal functions (X1~X27) and output terminal functions (Y0~Y32) are programmed in F5-01~F5-27 and F7-00 to F7-32 parameters respectively
- For detailed terminal information and parameterization, please refer the NICE100+ user manual

**Caution:** Once again make sure that all safeties and its operating devices are functional before put the elevator in normaloperation.

## Elevator Performance Adjustment Profile:




## Additional Performance Parameter List:

| | | | |
|---|---|---|---|
| DC Injection Control Parameters | | | |
| F3-14 | DC injection braking time at Start-up | 0.000 ~ 1.000s | 0.300s |
| F8-15 | DC injection braking current at Start-up | 0 ~ 150% | 50% |
| F8-16 | DC injection braking current at End | 0 ~ 150% | 30% |
| F8-11 | DC injection braking time at End | 0.000~1.500 | 0.300s |
| Brake Control Parameters | | | |
| F3-24 | Brake Release Current threshold | 0 ~ 100% | 5% |
| F3-23 | Brake Release speed threshold | 0.000 ~ 0.100m/s | 0.008m/s |
| F3-15 | Brake Release Delay On set time | 0.000 ~ 1.000s | 0.050s |
| F3-25 | Brake Apply Frequency threshold | 0.000 ~ F3-10 | 0.005m/s |
| F3-16 | Brake apply delay OFF set time | 0.000 ~ 1.000s | 0.200s |
| Special Control Parameters | | | |
| F2-11 | Retard Coefficient | 0~200 | 50% |
| F2-12 | Retard Coefficient Enabling | 0~1 | 0 |

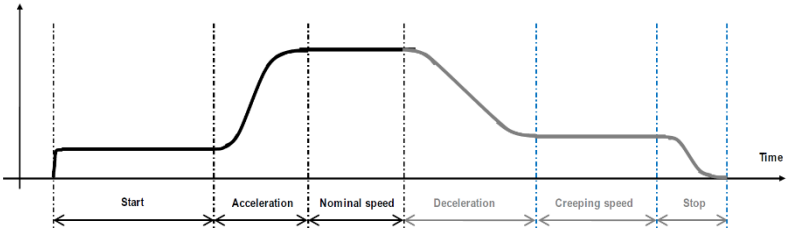
## Fault History details:

NICE100+ is having more than 60 faults which starts from Err02 to Err63. Each fault is specifying the causes for the fault and remedy for the faults are listed in the NICE100+ user manual

| | |
|---|---|
| E0 -00 ~ E0-23 | 1st Fault complete Record |
| . . | . . |
| E9-00 ~ E9-23 | 10th Fault complete Record |
| FC-17 ~ FC-46 | 11th to 20th Fault type record |

- NICE100+ can store up to 20 latest faults
- E0 ~ E9 stores the last 10 faults with complete details
- FC-17 ~ FC-46 stores another 10 fault types and time
- For more details, refer NICE100+ User manual

## Elevator Performance Fine-Tuning:




| Stage | Symptom | Diagnostics | Remedies |
|---|---|---|---|
| **Start** | Rollback | Brake Releases too early | Increase F3-24 |
| | | Start Frequency is too low | Increase F3-00 |
| | | Torque Output is insufficient in VF mode | Make sure F2-43=0 for auto torque boost |
| | Starting Jerk | Brake Device releases too late | Decrease F3-24, F3-23, F3-15 |
| | | Higher PI gains | Decrease F2-00 and increase F2-01 |
| | | Start frequency is high | Increase the F2-18 or Decrease F3-00 |
| **Acceleration** | Jerk when acceleration starts | Too fast acceleration | Decrease F3-02 or increase F3-03 or Decrease F2-00 & increase F2-01 |
| | Jerk when acceleration ends | Too fast acceleration | Decrease F3-02 or increase F3-04 |
| | Overshoot at Acc. ends | Low PI gain | Increase F2-03 and decrease F2-04 |
| | Vibration on acceleration | Improper PI gain | Adjust F2-00 and F2-03 relatively F2-01 and F2-04 also |
| **Normal Speed** | Vibration | Improper PI gain | Adjust F2-00 and F2-03 relatively F2-01 and F2-04 also |
| | | Improper current loop gain | Check the motor parameters and do the motor tuning again |
| **Deceleration** | Jerk when Dec. starts | Too fast deceleration | Decrease F3-05 or increase F3-06 |
| | Vibration | Improper deceleration | Adjust F3-05 to F3-07 |
| | Jerk when deceleration ends | Too fast deceleration | Decrease F3-05 or increase F3-07 |
| | Undershoot at Dec. ends | Too small PI gain | Increase F2-03 & F2-00 and decrease F2-04 & F2-05<br>Increase F2-11 with F2-12=1 |
| **Creeping Speed** | Vibration | Improper PI setting | Adjust F2-05 lower than the creep speed frequency |
| | Slower speed than set value | Too small PI | Increase F2-11 with F2-12=1<br>Adjust Slip gain F2-06 in SVC and F2-45 in VF mode |
| **Stopping** | Jerk | Too fast deceleration & high PI gain | 1. Decrease F3-19 and increase F3-20 & F3-21<br>2. Decrease F2-00 and increase F2-01 |
| | | Brake apply too early | Adjust brake parameters F3-16, F3-25 |
| | | Too strong DC injection | Decrease DC injection at F8-16 |
| | Slip | Inadequate DC injection at stop | Increase DC injection at F8-16 |
| | | Brake apply delay | Adjust brake parameters F3-16, F3-25 |
| | Inaccurate Floor Level stopping | Parameter setting | Adjust floor levelling using Fr parameter and F4-00 |
| | | Too low PI | Increase F2-00 & decrease F2-01<br>Increase F2-11 with F2-12=1 |
| | | Improper stopping deceleration | Adjust F3-19, F3-20, F3-21 |
| | | Faster/slower creep speed | Adjust creep speed at F3-10 |