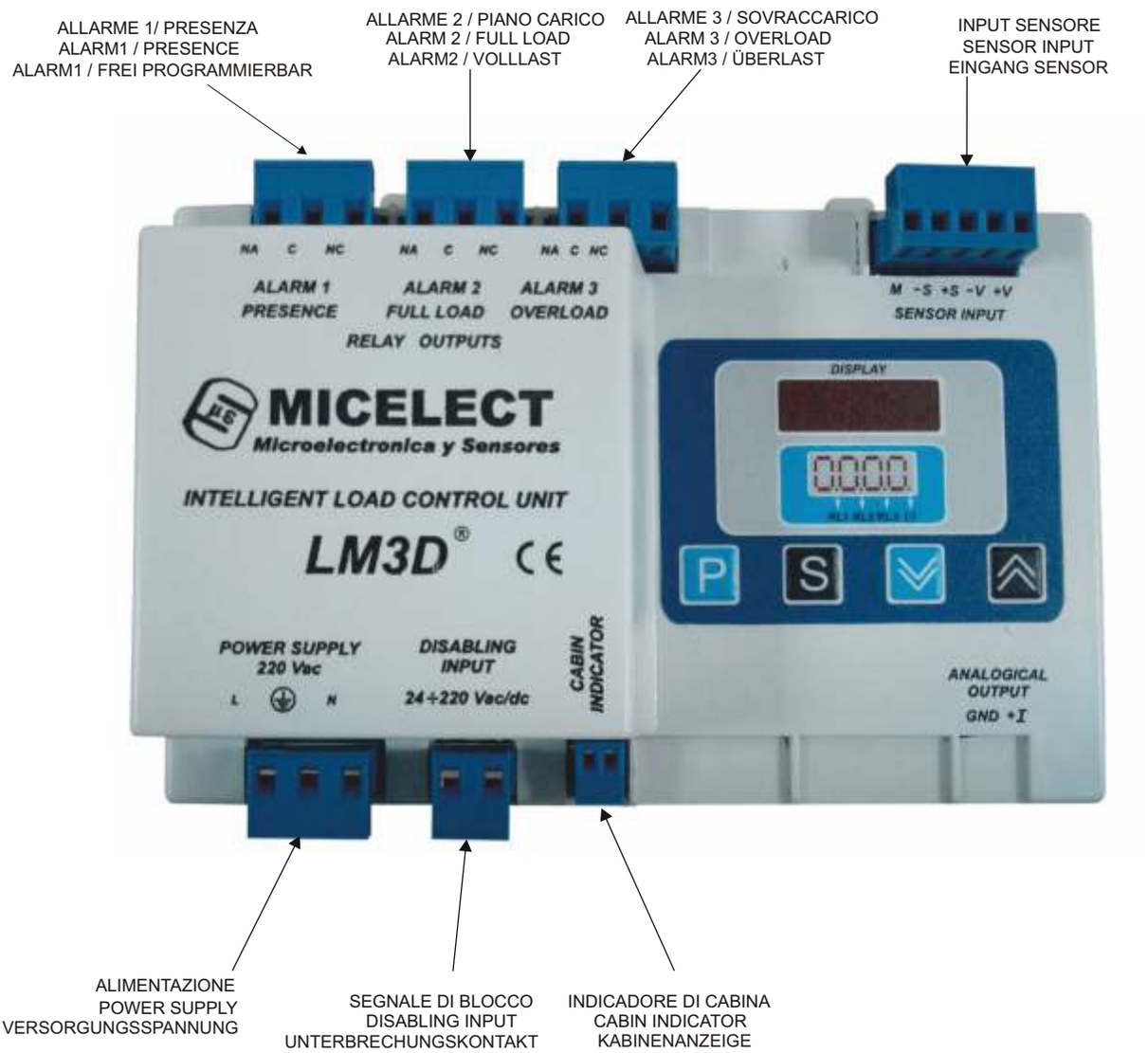
LM3D



MANUALE TECNICO

TECHNICAL MANUAL

TECHNISCHE ANLEITUNG

LM3D-M15

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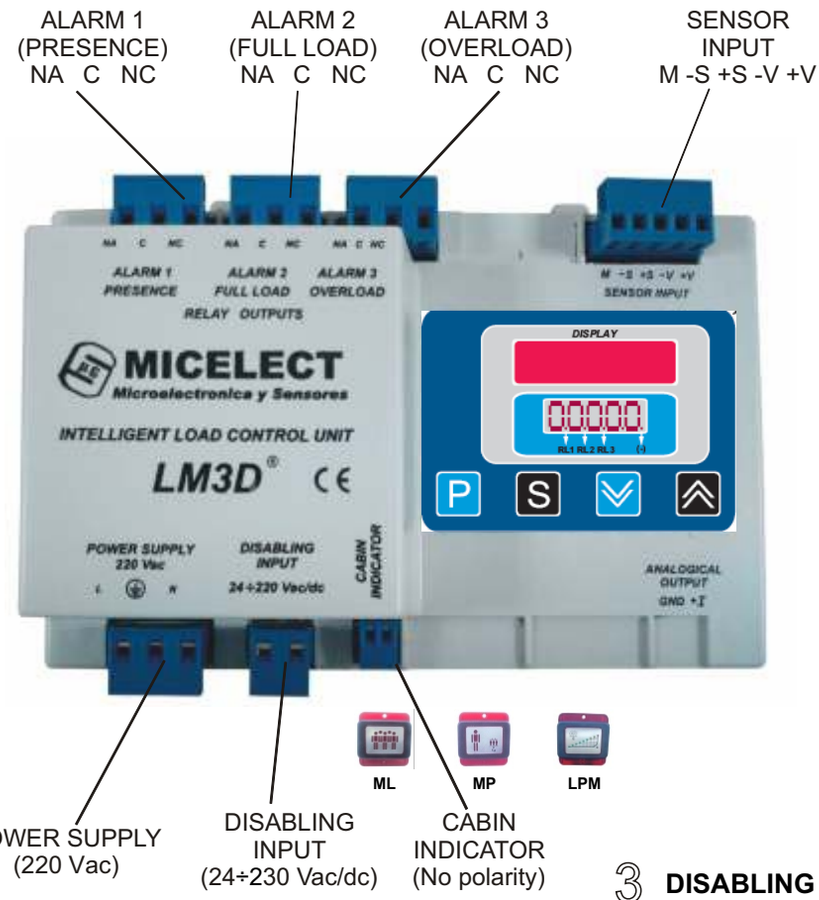
LM3D INSTALLATION PROCEDURE: (3 STEPS)

MICELECT

ENGLISH

1 DIAGRAM OF CONNECTIONS:



SENSOR CONNECTING CODE:

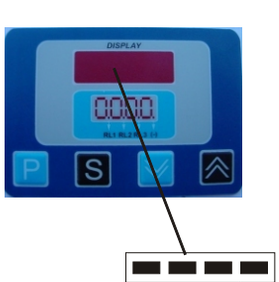
M ..... MESH
- S .....- Signal (YELLOW/WHITE).
+ S .....+ Signal (GREEN).
- V .....- Vdc (BLACK).
+ V .....+ Vdc (RED).

ALARM CONNECTING CODE:

NA ..... Normally open.
C ..... Common.
NC ..... Normally closed.

Relays electrical ratings:
250Vdc / 3 A

2 KEYS AND FIGURES:



ALARM 1 ACTIVATED
NEGATIVE VALUES
ALARM 2 ACTIVATED
ALARM 3 ACTIVATED

NB: The display will switch off after 5 minutes of normal operation. The user can switch the display back on by pressing any key.

PROGRAMMING KEY "P"

This key allows the user to scroll through the menu options in order to enter the various lift parameters. When the parameters have been defined, the user can press the "P" key to save the settings in eeprom.
(a non-volatile memory to save data in case of power failure).

EXIT KEY "S"

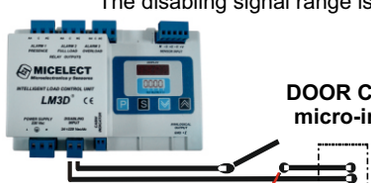
This key allows the user to leave the menu without saving the settings in eeprom. In the alarm menus, the user can skip from one alarm value to another without defining their parameters.
When in weighing mode, by pressing and holding down the 'S' key, the user can visualise the total weight suspended without the correction for the compensating chain.

UP/DOWN KEY " ▼ "▲

These keys allow the user to increase or decrease the values in each menu option. By pressing the key repeatedly, the values are increased/ decreased in units of one. If the key is held down, the values increase/ decrease in units of twenty.

3 DISABLING OR BLOCKING VOLTAGE:

The disabling signal range is **(24-230 Vac/dc)**



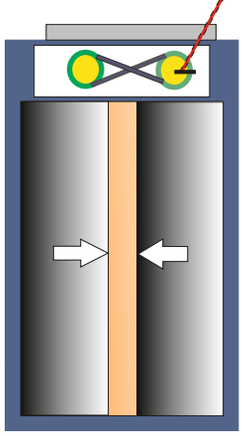
DOOR CONTACT / micro-interruptor

LM3D Disabling

24- 230V ac/dc

Disabling signal with Door Contact:

Closed contact when the door(s) is/are closed and open contact when the door(s) start(s) to open.



NB: It is compulsory to use the disabling signal in order to avoid dynamic errors in the measurement and to correct the compensating chain´s weight in these two cases:

(1) In installations with a compensating chain.
(2) When any cabin indicator (lighter and/or sounder) is installed inside the cabin.

The LM3D must receive a constant blocking signal throughout the entire journey of the lift from the moment the doors are almost fully closed to the moment when the cabin has reached the floor and the doors are starting to open again.
NB: This must be a continuous signal of 24-220Vac/dc.

The display will remain frozen throughout the time that the LM3D is receiving this signal.
The disabling signal can be connected using, for example, a door contact micro (voltage) when the door(s) is/are closed, and open contact when door(s) start(s) to open.

Hold down the "P" key for 3 seconds to start the programming procedure.

1 SENSOR SELECTION:

Depending on the selected option, the calibration procedure will be performed either automatically (sensors: LMC, CAB, VR, HPS) or manually using test weights (CCP or BEAM). In the rare case of installations with LMC, CAB or VR sensor which must be calibrated with test weights, the user must select CCP.

2 ZERO CALIBRATION: "TARE"

Perform the zero setting with an empty cabin by selecting **"YES"**. It is recommended to jump inside the cabin before performing the zero to reduce the effect of any friction in the guide rails. Following this, press the **"P"** key and the controller display will start to flash for 10- 15 seconds giving the installer time to leave the cabin completely empty.

3 SENSOR CONFIGURATION:

** LMC (Wire Rope sensor):

Calibration is automatic by entering the diameter of the ropes from 6.0mm to 16.0mm (3/8 inch = 10mm, 1/2 inch = 13mm, 5/8 inch = 16mm.)

** CCP (Bed Frame sensor-Test weight calibration):

Test weight calibration: Test weights must be used to calibrate this type of sensor. The test weights must be **at least 50%** of the capacity of the elevator and, **wherever possible, 100%**. The weight is entered into the LM3D when the weights are placed inside the cabin.

** CAB (CAB 800 sensors):

Calibration is **automatic** by simply entering the number of sensors being used in the installation **(4-6 or 8)**.

** VG BEAM (Beam sensor):

Test weight calibration: Test weights must be used to calibrate this type of sensor. The test weights must be **at least 50%** of the capacity of the elevator and, **wherever possible, 100%**. The weight is entered into the LM3D when the weights are placed inside the cabin.

** VR (Individual wire rope sensor - WR):

Calibration is **automatic** by entering the diameter of the wire ropes from 6mm, 8mm to 16mm and 20mm (3/8 inch =10mm, 1/2 inch=13mm, 5/8 inch=16mm)

The number (u) of sensors being used must also be introduced (1-8). NB: Every wire rope must have a sensor mounted!

** HPS (sensors installes on wedge sockets):

Operating Capacity: In order to calibrate the sensors you would have to choose 500 or 1000 KG from the scale.

The number (u) of sensors being used must also be introduced (1-12).

4 NUMBER OF PEOPLE:

Select the capacity of the elevator in terms of number of people, from **2** to **30.** The alarm values will then be automatically set according to this number and alarm 1 will be set at 65535. These alarm values can be modified manually as shown in **section 6**.

5 TYPE OF INSTALLATION:

Select the type of roping from the options available: **1:1, 2:1 or 4:1.**

6 ALARM VALUES:

The LM3D controller has 3 programmable alarms:

Alarm 1: This can be set for **PRESENCE** or **ANTI-NUISANCE** (only recommended when using CAB sensor).
Alarm 2: This alarm is usually assigned to **FULL LOAD** (80% of capacity).
Alarm 3: This is always assigned to **OVERLOAD** (100% of capacity).

7 COMPENSATING CHAIN WEIGHT: "CHAIN"

If the installation has a compensating chain, then the user must select **"YES"**. If the installation does not have a compensating chain, then the user must select **"NO"**.

NB: If the user selects **"YES"**, then it is necessary for the disabling connector to be connected, as shown in section 3 of the installation procedure. **Closed contact when the doors are almost fully closed and open contact when doors start to open.**

NB: This signal must be within the range of 24 to 220 Vac/dc, and this signal **must be continuous** throughout the entire journey of the lift.

PRE-OPENING DOORS CONFIGURATION:

INHI: To be set at a value of 0-11 (2=0.520 secs, 11 = 2.89 secs). Using this as a point of reference, the value should be set so that the INHI delay corresponds to the time in which the doors take to close. **"0 & 1" = No delay**

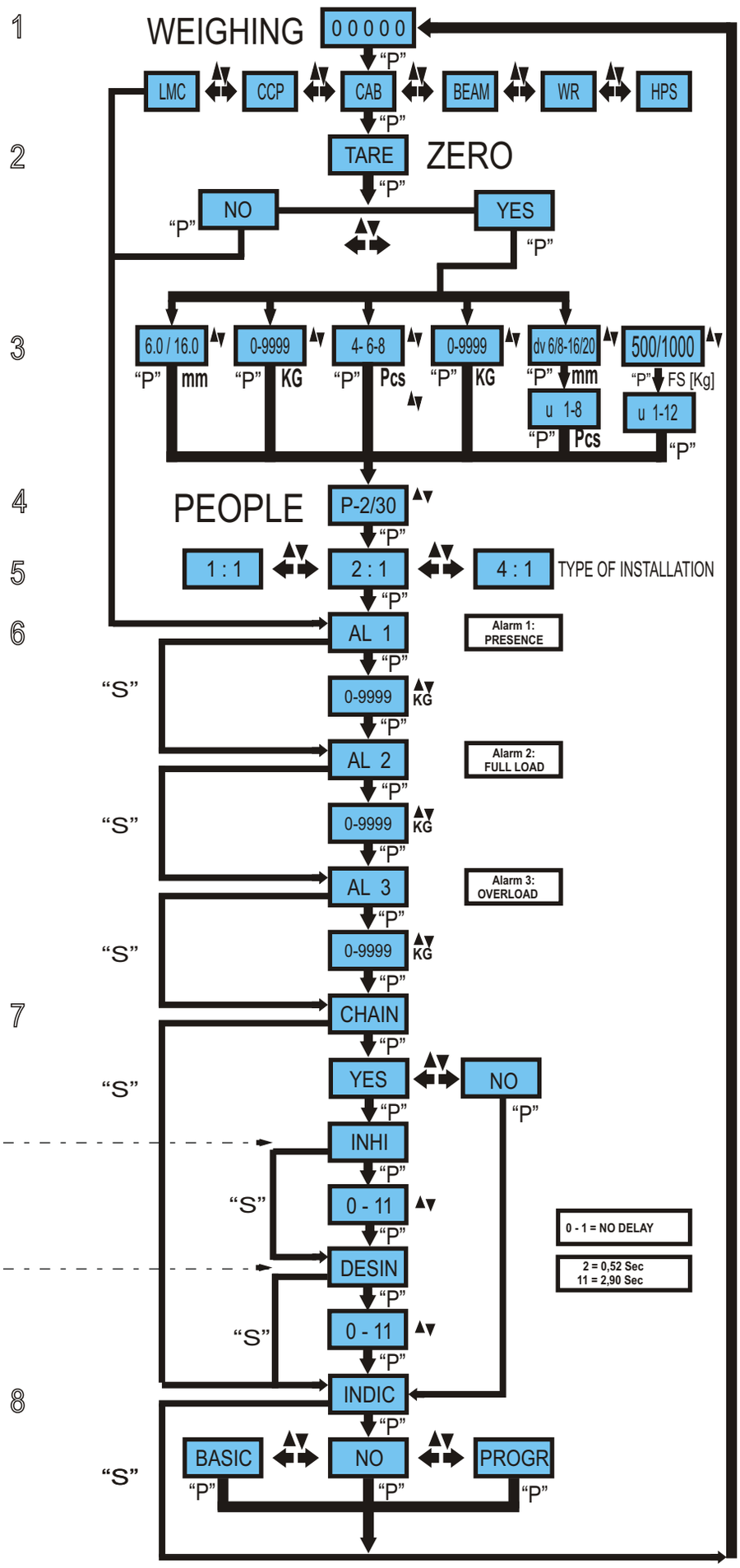
DESIN: To be set at a value of 0-11 (2=0.520 secs, 11 = 2.9 secs). Using this as a point of reference ,the value should be set so that the DESIN delay corresponds to the time which the doors take to open, **"0 & 1" = No delay.**

NB: If the installation does not use pre-opening doors, then the user should always select "0"

8 CABIN INDICATOR: "INDIC"

"NO": No indicator installed inside the cabin.
"BASIC": MICELECT basic indicator ML model or any lighter-sounder system powered by 24Vdc.
"PROGR": MICELECT progressive models (MP or LPM).

FLOW CHART



Parameters INHI-DESIN	Delay Approx.
0	No pre-opening doors
1	No pre-opening doors
2	0.5 Sec.
3	0.8 Sec.
4	1 Sec.
5	1.3 Sec.
6	1.6 Sec.
7	1.8 Sec.
8	2 Sec.
9	2.4 Sec.
10	2.6 Sec.
11	2.9 Sec.

CODICE ERRORE:

ERR0: Peso conosciuto non rilevato.
ERR1: I dati non sono stati salvati.
ERR2: Sovraccarico.
ERR3: Alimentazione insufficiente.
ERR4: Peso conosciuto negativo.
ERR5: Peso conosciuto troppo basso o troppo alto.

SOLUZIONE:

ERR0: Controllare connessioni /verificare flessione trave (nessuna variazione tra cabina vuota e carica).
ERR1: Ripetere la programmazione.
ERR2: Carico utile > 9999 kg.
ERR3: Controllare l'alimentazione
ERR4: Possibili attriti sulle guide/cablaggio errato (verificare colore connessioni)
ERR5: Vedi punto 2 - configurazione sensore tipo CCP. Posizionare in cabina il carico corretto.

SUGGERIMENTI UTILI :

- Si raccomanda di non accorciare né allungare mai il cavo del sensore in quanto ciò ne comprometterebbe la precisione d'intervento.
- L'azzeramento iniziale e la taratura va eseguita preferibilmente al piano più basso o al piano in cui la cabina rimane più a lungo (di regola il piano corrispondente all'entrata dell'edificio).
- Prima di eseguire l'azzeramento è sempre consigliabile saltare sul pavimento o sul tetto di cabina per staccarla bene dalle guide ovvero ridurre il più possibile gli attriti.
- Sebbene per la taratura dei sensori a mezzo peso conosciuto si possa utilizzare un carico al limite pari solo al 50% della portata, consigliamo vivamente di utilizzare sempre il maggior peso possibile.
- Tarando con il 100% della portata si avrà la massima precisione.
- Quando il sensore (VG) BEAM viene installato in impianti con arcata a sedia ovvero in cui la cabina è supportata lateralmente, occorre assolutamente tenere conto del conseguente forte attrito aggiuntivo (dovuto al cosiddetto back-pack effect, lett. “effetto zaino”) che può ridurre drasticamente il segnale del sensore.
- Per la taratura del sensore (VG)BEAM in questo tipo di impianti si raccomanda di utilizzare sempre il 100% della portata.
- Quando il sensore viene installato su un impianto nuovo, si consiglia vivamente di ricontrollare il sistema pesacarico dopo qualche mese e, se necessario, rifare la taratura, poiché l'attrito dell'impianto col tempo di regola diminuisce e ciò può compromettere il corretto funzionamento del pesacarico.

ERROR CODES:

ERR1: No saved data.
ERR2: Overload.
ERR3: Power supply low.
ERR4: Negative calibration weight.
ERR5: Calibration weight too low/high.

SOLUTIONS:

ERR1: Repeat the calibration procedure.
ERR2: Useful Load > 9999 KG.
ERR3: Check the Power Supply.
ERR4: Possible friction (stick-tion)/Incorrect sensor wiring (check sensor wiring colour code)
ERR5: See **section** 3 of CCP calibration procedure (modify the load used for calibration).

USEFUL TIPS:

- The **calibration** should preferably be performed on the lowest floor, or alternatively on the floor on which the car spends the most time stationary (this is usually the lobby or entrance to the building).
- Before performing the **zero setting**, it is advisable to jump inside the car to reduce any possible friction in the guide rails.
- When **calibrating with test weights**, although is it recommended to use at least half the capacity weight, if possible, the full capacity weight should be used.
- If the controller is **accummulating weight over time**, then this is an indication that the disabling signal is not correct, or is not continuous throughout the entire lift journey. This can be tested using a multi-meter connected to the disabling input whilst the car is moving. Check the voltage range in AC and DC. If the disabling signal is DC, then there should be no AC voltage. During the entire journey there should be no signal fluctuations.
- If the **controller is showing negative weights**, then as well as being possibly caused by friction, it could also be that the yellow and green sensor wires are connected to the controller the wrong way around.
- When using sensors which take indirect measurements (VG, LMC, WR or CCP), it is quite normal to experience inaccuracies in the readings when there is little or no weight inside the car. However, as the weight inside the car increases, so too does the accuracy. This is caused by friction in the guide rails.
- The disabling signal should be received by the LM3D when the **doors are closed**, or as close to being closed as possible.
- The disabling signal should be stopped when the **doors start to open.**

- **INHI and DESI parameters**.
  (INI) T=This is the time that the car is in movement before the disabling signal is received.
  (DESIN) T=This is the time that the car takes to stop from the moment the disabling signal is stopped

  T / 0.2636 =The value which should be entered.