VEGA®
ITALIAN STYLE FOR LIFTS

Compact line boards
Rev.03

COP
COP-COMPACT-DMX-PAR-LEM-4I-W→Positive and negative display inputs
DOT MATRIX COP display with icons and Emergency Light (EN 81-20)

ORDERING INFO	
CODE	**DESCRIPTION**
COP-COMPACT-DMX-PAR-LEM-4I-W	Dot Matrix COP display with white arrows, floors numbering, 4 alarm pictograms and Emergency Light
CU31.JST20D.32F-FIL.31M.0150-USL-V00	Cable for display connection, length 1,5m

SUMMARY

# 1 DISPLAY DATASHEET

Power Supply	12-24Vdc±10%
Maximum current consumption	320 mA @ 12Vdc 220 mA @ 24Vdc
Operating temperature	-15°C / +50°C
Internal connectors	JST 2mm (32p – 16x2)

2 DISPLAY WORKING MODE

The display working mode can be chosen by the display menu M2.

Displayed	Working mode	Description	N°max floors (default range)
1P	1 WIRE	**1 wire per floor**, each input (I1-I15) activates a floor	15 (-1-13)
B	BINARY	The inputs (I1-I6) encode the floor number in **binary**	64 (0-63)
BN	INVERTED BINARY	The inputs (I1-I6) encode the floor number in **inverted binary**	64 (0-63)
BC	BCD	The inputs (I1-I6) encode the floor number in **BCD**	29 (-9-19)
GR	GRAY	The inputs (I1-I6) encode the floor number in **GRAY**	64 (0-63)
B-	BINARY with minus sign	The inputs (I1-I6) encode the floor number in **binary** (see note below binary inputs configuration table)	41 (-9-31)
DE	DEMO	Lift virtual simulation with floors, arrows and alarms	16 (0-15)
AO	Stand alone NO	Stand-alone display mode (with magnetic NO sensors)	64 (-9-54)
AC	Stand alone NC	Stand-alone display mode (with magnetic NC sensors)	64 (-9-54)

3 DISPLAY INTERNAL CONNECTOR PIN OUT
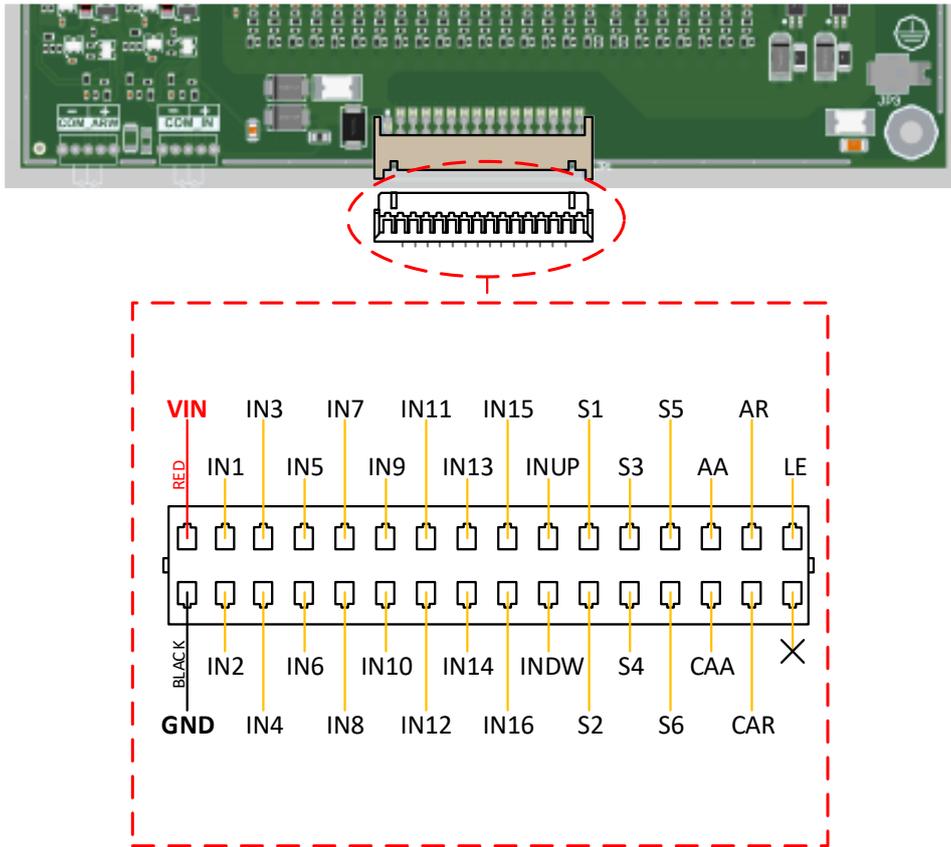
3.1 DISPLAY INPUT POLARITY

The input polarity can be chosen by the display menu MA.

Menu MA value	Floors and alarms inputs (S1-S6) polarity	Arrows inputs polarity
00	Negative	Negative
01	Positive	Negative
02	Negative	Positive
03	Positive	Positive

3.2 MODE 1PPF - DISPLAY WIRING

WIRE	DESCRIPTION/ DISPLAYED
VIN	Power supply (+) 12-24Vdc
GND	Power supply (-) 0V
IN1-IN15	Floors (-1 – 13)
I16	Gong
INUP	
INDW	
S1	
S2	
S3	
S4	
S5	
S6	
AA-CAA	
AR-CAAR	
LE	Emergency Light (+)
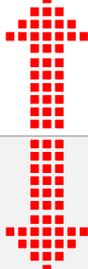
The input polarity can be chosen by the display menu MA. (See par.3.1)

3.3 MODE BINARY/INVERTED BINARY/GRAY - DISPLAY WIRING

WIRE	DESCRIPTION/ DISPLAYED
VIN	Power supply (+) 12-24Vdc
GND	Power supply (-) 0V
IN1-IN15	Floors (-1 – 13)
IN16	Gong
INUP	
INDW	
S1	
S2	
S3	
S4	
S5	
S6	
AA-CAA	
AR-CAAR	
LE	Emergency Light (+)
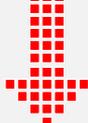
3.3.1 BINARY/ INVERTED BINARY/ BCD/ GRAY INPUTS CONFIGURATION

Binary	Inv. Binary	Display inputs						Binary	Inv. Binary	Display inputs					
		1	2	3	4	5	6			1	2	3	4	5	6
0	63	OFF	OFF	OFF	OFF	OFF	OFF	32	31	OFF	OFF	OFF	OFF	OFF	ON
1	62	ON	OFF	OFF	OFF	OFF	OFF	33	30	ON	OFF	OFF	OFF	OFF	ON
2	61	OFF	ON	OFF	OFF	OFF	OFF	34	29	OFF	ON	OFF	OFF	OFF	ON
3	60	ON	ON	OFF	OFF	OFF	OFF	35	28	ON	ON	OFF	OFF	OFF	ON
4	59	OFF	OFF	ON	OFF	OFF	OFF	36	27	OFF	OFF	ON	OFF	OFF	ON
5	58	ON	OFF	ON	OFF	OFF	OFF	37	26	ON	OFF	ON	OFF	OFF	ON
6	57	OFF	ON	ON	OFF	OFF	OFF	38	25	OFF	ON	ON	OFF	OFF	ON
7	56	ON	ON	ON	OFF	OFF	OFF	39	24	ON	ON	ON	OFF	OFF	ON
8	55	OFF	OFF	OFF	ON	OFF	OFF	40	23	OFF	OFF	OFF	ON	OFF	ON
9	54	ON	OFF	OFF	ON	OFF	OFF	41	22	ON	OFF	OFF	ON	OFF	ON
10	53	OFF	ON	OFF	ON	OFF	OFF	42	21	OFF	ON	OFF	ON	OFF	ON
11	52	ON	ON	OFF	ON	OFF	OFF	43	20	ON	ON	OFF	ON	OFF	ON
12	51	OFF	OFF	ON	ON	OFF	OFF	44	19	OFF	OFF	ON	ON	OFF	ON
13	50	ON	OFF	ON	ON	OFF	OFF	45	18	ON	OFF	ON	ON	OFF	ON
14	49	OFF	ON	ON	ON	OFF	OFF	46	17	OFF	ON	ON	ON	OFF	ON
15	48	ON	ON	ON	ON	OFF	OFF	47	16	ON	ON	ON	ON	OFF	ON
16	47	OFF	OFF	OFF	OFF	ON	OFF	48	15	OFF	OFF	OFF	OFF	ON	ON
17	46	ON	OFF	OFF	OFF	ON	OFF	49	14	ON	OFF	OFF	OFF	ON	ON
18	45	OFF	ON	OFF	OFF	ON	OFF	50	13	OFF	ON	OFF	OFF	ON	ON
19	44	ON	ON	OFF	OFF	ON	OFF	51	12	ON	ON	OFF	OFF	ON	ON
20	43	OFF	OFF	ON	OFF	ON	OFF	52	11	OFF	OFF	ON	OFF	ON	ON
21	42	ON	OFF	ON	OFF	ON	OFF	53	10	ON	OFF	ON	OFF	ON	ON
22	41	OFF	ON	ON	OFF	ON	OFF	54	9	OFF	ON	ON	OFF	ON	ON
23	40	ON	ON	ON	OFF	ON	OFF	55	8	ON	ON	ON	OFF	ON	ON
24	39	OFF	OFF	OFF	ON	ON	OFF	56	7	OFF	OFF	OFF	ON	ON	ON
25	38	ON	OFF	OFF	ON	ON	OFF	57	6	ON	OFF	OFF	ON	ON	ON
26	37	OFF	ON	OFF	ON	ON	OFF	58	5	OFF	ON	OFF	ON	ON	ON
27	36	ON	ON	OFF	ON	ON	OFF	59	4	ON	ON	OFF	ON	ON	ON
28	35	OFF	OFF	ON	ON	ON	OFF	60	3	OFF	OFF	ON	ON	ON	ON
29	34	ON	OFF	ON	ON	ON	OFF	61	2	ON	OFF	ON	ON	ON	ON
30	33	OFF	ON	ON	ON	ON	OFF	62	1	OFF	ON	ON	ON	ON	ON
31	32	ON	ON	ON	ON	ON	OFF	63	0	ON	ON	ON	ON	ON	ON

NOTE: The table refers to a display with the parameter **M3 = 0**, the position indication can be shifted by changing this value.

Setting **M2 = B-** the I6 input enables the minus sign "-" for floors from -1 to -9, according to the binary truth table. For this mode the menu M3 does not work.

BCD	Display inputs					BCD	Display inputs				
	1	2	3	4	5		1	2	3	4	5
0	ON	ON	ON	ON	OFF	10	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	OFF	11	OFF	ON	ON	ON	ON
2	ON	OFF	ON	ON	OFF	12	ON	OFF	ON	ON	ON
3	OFF	OFF	ON	ON	OFF	13	OFF	OFF	ON	ON	ON
4	ON	ON	OFF	ON	OFF	14	ON	ON	OFF	ON	ON
5	OFF	ON	OFF	ON	OFF	15	OFF	ON	OFF	ON	ON
6	ON	OFF	OFF	ON	OFF	16	ON	OFF	OFF	ON	ON
7	OFF	OFF	OFF	ON	OFF	17	OFF	OFF	OFF	ON	ON
8	ON	ON	ON	OFF	OFF	18	ON	ON	ON	OFF	ON
9	OFF	ON	ON	OFF	OFF	19	OFF	ON	ON	OFF	ON

NOTE: to use BCD, set the parameter **M3 = 0.** The input I6 activates the minus sign. If the inputs I5 and I6 are both ON, only the tens will be displayed.

Gray	Display inputs						Gray	Display inputs					
	1	2	3	4	5	6		1	2	3	4	5	6
0	OFF	OFF	OFF	OFF	OFF	OFF	32	OFF	OFF	OFF	OFF	ON	ON
1	ON	OFF	OFF	OFF	OFF	OFF	33	ON	OFF	OFF	OFF	ON	ON
2	ON	ON	OFF	OFF	OFF	OFF	34	ON	ON	OFF	OFF	ON	ON
3	OFF	ON	OFF	OFF	OFF	OFF	35	OFF	ON	OFF	OFF	ON	ON
4	OFF	ON	ON	OFF	OFF	OFF	36	OFF	ON	ON	OFF	ON	ON
5	ON	ON	ON	OFF	OFF	OFF	37	ON	ON	ON	OFF	ON	ON
6	ON	OFF	ON	OFF	OFF	OFF	38	ON	OFF	ON	OFF	ON	ON
7	OFF	OFF	ON	OFF	OFF	OFF	39	OFF	OFF	ON	OFF	ON	ON
8	OFF	OFF	ON	ON	OFF	OFF	40	OFF	OFF	ON	ON	ON	ON
9	ON	OFF	ON	ON	OFF	OFF	41	ON	OFF	ON	ON	ON	ON
10	ON	ON	ON	ON	OFF	OFF	42	ON	ON	ON	ON	ON	ON
11	OFF	ON	ON	ON	OFF	OFF	43	OFF	ON	ON	ON	ON	ON
12	OFF	ON	OFF	ON	OFF	OFF	44	OFF	ON	OFF	ON	ON	ON
13	ON	ON	OFF	ON	OFF	OFF	45	ON	ON	OFF	ON	ON	ON
14	ON	OFF	OFF	ON	OFF	OFF	46	ON	OFF	OFF	ON	ON	ON
15	OFF	OFF	OFF	ON	OFF	OFF	47	OFF	OFF	OFF	ON	ON	ON
16	OFF	OFF	OFF	ON	ON	OFF	48	OFF	OFF	OFF	ON	OFF	ON
17	ON	OFF	OFF	ON	ON	OFF	49	ON	OFF	OFF	ON	OFF	ON
18	ON	ON	OFF	ON	ON	OFF	50	ON	ON	OFF	ON	OFF	ON
19	OFF	ON	OFF	ON	ON	OFF	51	OFF	ON	OFF	ON	OFF	ON
20	OFF	ON	ON	ON	ON	OFF	52	OFF	ON	ON	ON	OFF	ON
21	ON	ON	ON	ON	ON	OFF	53	ON	ON	ON	ON	OFF	ON
22	ON	OFF	ON	ON	ON	OFF	54	ON	OFF	ON	ON	OFF	ON
23	OFF	OFF	ON	ON	ON	OFF	55	OFF	OFF	ON	ON	OFF	ON
24	OFF	OFF	ON	OFF	ON	OFF	56	OFF	OFF	ON	OFF	OFF	ON
25	ON	OFF	ON	OFF	ON	OFF	57	ON	OFF	ON	OFF	OFF	ON
26	ON	ON	ON	OFF	ON	OFF	58	ON	ON	ON	OFF	OFF	ON
27	OFF	ON	ON	OFF	ON	OFF	59	OFF	ON	ON	OFF	OFF	ON
28	OFF	ON	OFF	OFF	ON	OFF	60	OFF	ON	OFF	OFF	OFF	ON
29	ON	ON	OFF	OFF	ON	OFF	61	ON	ON	OFF	OFF	OFF	ON
30	ON	OFF	OFF	OFF	ON	OFF	62	ON	OFF	OFF	OFF	OFF	ON
31	OFF	OFF	OFF	OFF	ON	OFF	63	OFF	OFF	OFF	OFF	OFF	ON

The table refers to a display with the parameter **M3 = 0**, the position indication can be shifted by changing this value.

Set menu M2=AO or AC depending on the magnet sensors you are using. AO= magnet sensors normally open, AC=magnet sensors normally close.

Set MA=03.
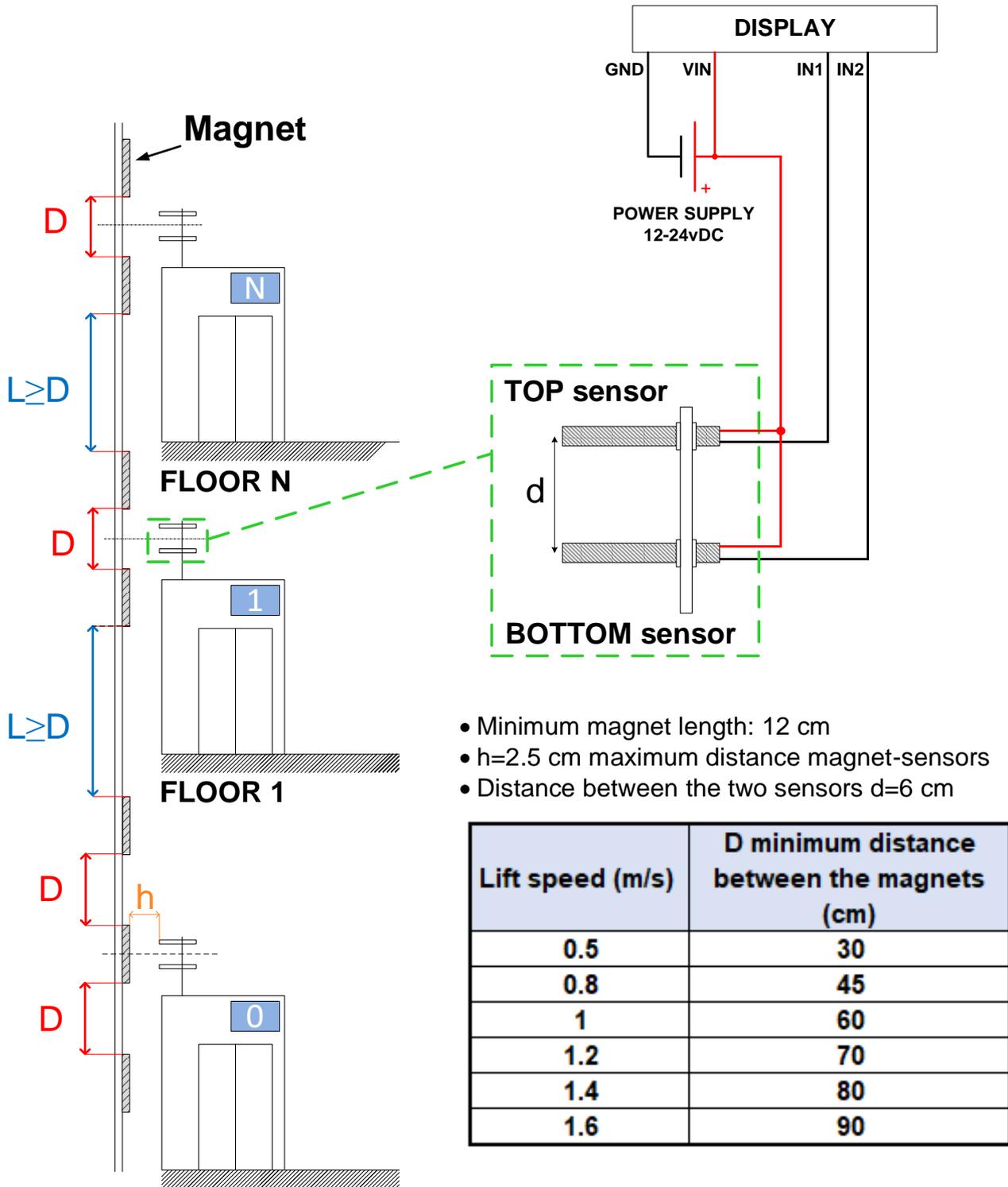
- Minimum magnet length: 12 cm
- h=2.5 cm maximum distance magnet-sensors
- Distance between the two sensors d=6 cm

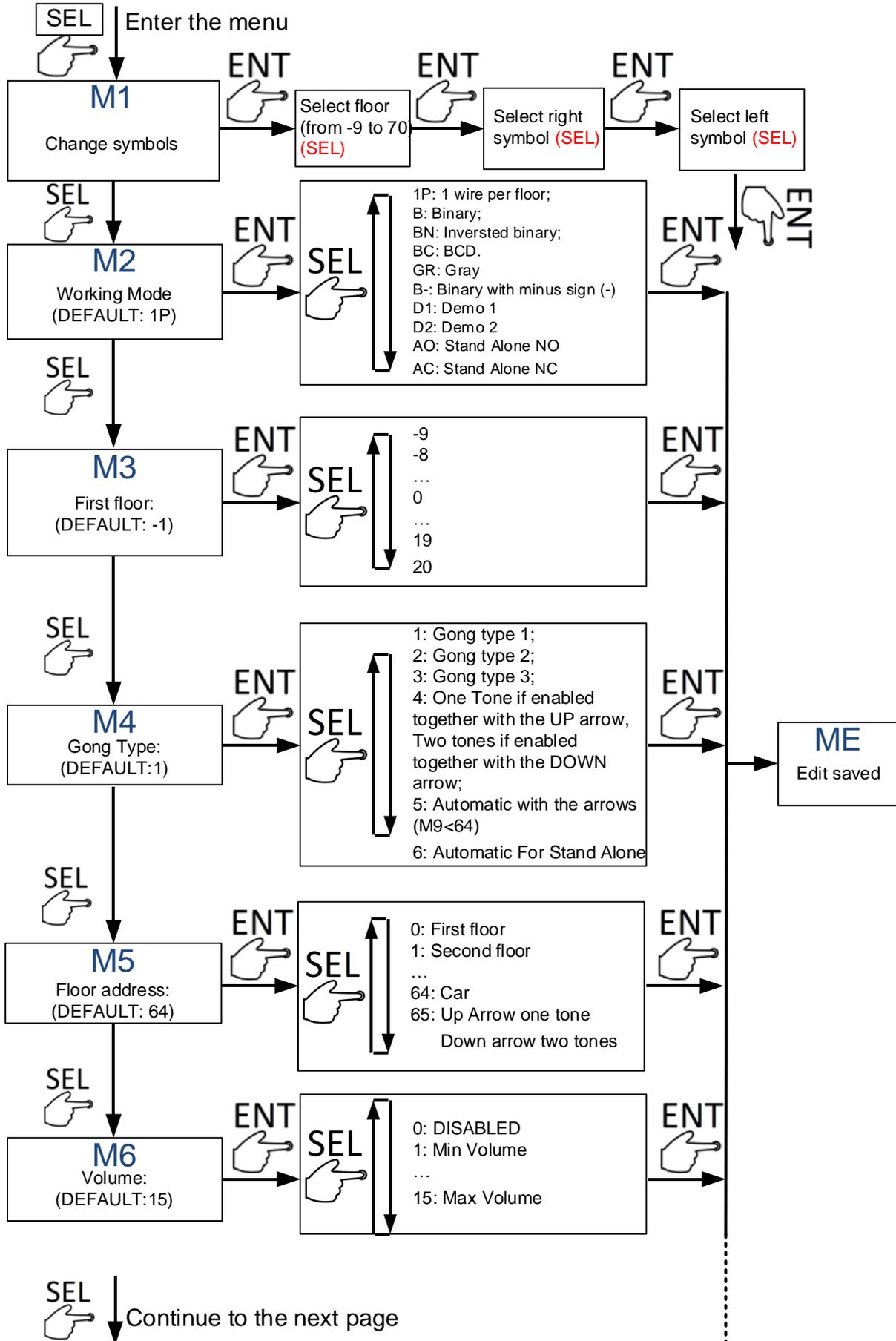| Lift speed (m/s)	D minimum distance between the magnets (cm)
0.5	30
0.8	45
1	60
1.2	70
1.4	80
1.6	90

N.B. The synchronizing floor is the only one with three magnets, the central magnet is placed in front of both the sensors.
The other floors only have one magnet above the TOP sensor and another under the BOTTOM sensor.
The value of the syncronizing floor can be changed by the parameter M5

4   DISPLAY PROGRAMMING

Use the SEL and ENT buttons to program.

SEL Enter the menu

ENT | **M1**
Change symbols | **ENT** → Select floor (from -9 to 70) (SEL) | **ENT** → Select right symbol (SEL) | **ENT** → Select left symbol (SEL)

SEL

M2
Working Mode
(DEFAULT: 1P) — **ENT** → **SEL**
1P: 1 wire per floor;
B: Binary;
BN: Inversted binary;
BC: BCD.
GR: Gray
B-: Binary with minus sign (-)
D1: Demo 1
D2: Demo 2
AO: Stand Alone NO
AC: Stand Alone NC
→ **ENT**

SEL

M3
First floor:
(DEFAULT: -1) — **ENT** → **SEL**
-9
-8
…
0
…
19
20
→ **ENT**

SEL

M4
Gong Type:
(DEFAULT:1) — **ENT** → **SEL**
1: Gong type 1;
2: Gong type 2;
3: Gong type 3;
4: One Tone if enabled together with the UP arrow, Two tones if enabled together with the DOWN arrow;
5: Automatic with the arrows (M9<64)
6: Automatic For Stand Alone
→ **ENT** → **ME**
Edit saved

SEL

M5
Floor address:
(DEFAULT: 64) — **ENT** → **SEL**
0: First floor
1: Second floor
…
64: Car
65: Up Arrow one tone
     Down arrow two tones
→ **ENT**

SEL

M6
Volume:
(DEFAULT:15) — **ENT** → **SEL**
0: DISABLED
1: Min Volume
…
15: Max Volume
→ **ENT**

SEL Continue to the next page

Continue from the previous page

M7
Inputs reading time
(DEFAULT: 03)

ENT

SEL

1: 50 ms
1: 100 ms
3: 150 ms
…
20: 1 sec
NOTE: If M2 = AO/AC the time becomes the activation dalay of the gong [sec].

ENT

SEL

M8
Add a floor.
Example: 0, **R**, 1, 2, 3

ENT

By choosing a floor X, before it will be added a new floor --.
To change the symbol of the new floor, use the M1 menu.
Ex. MC = 1 -> 0, --, 1, 2, 3

ENT

SEL

M9
Delete a floor.
Example : **0, 2**, 3

ENT

By selecting a floor, it will be deleted:
Ex. MD = 1 -> 0, 2, 3

ENT

ME
Edit saved

SEL

MA
Inputs common

ENT

SEL

00: Floor, alarms and arrows inputs with negative polarity;
01: Floor and alarms inputs with positive polarity arrows inputs with negative polarity;
02: Floor and alarms inputs with negative polarity arrows inputs with positive polarity;
03: Floor, alarms and arrows inputs with positive polarity;

ENT

SEL

MB
Enable/ Disable floors scrolling

ENT

SEL

NO: Disabled, fixed floors;
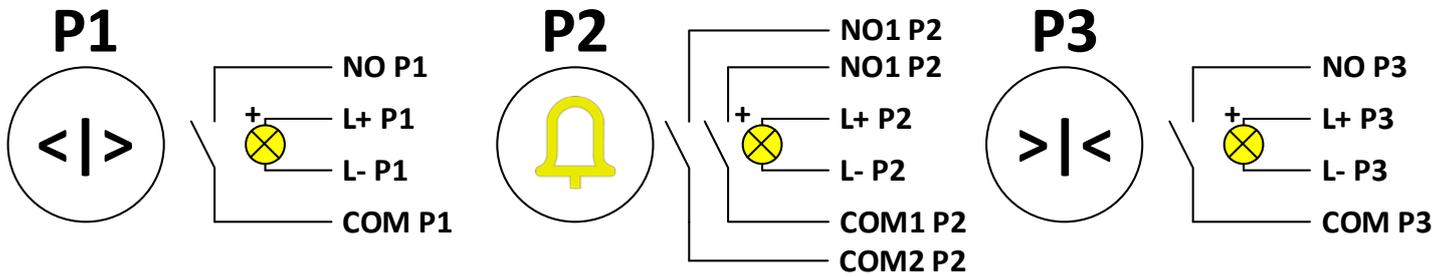OK: Enabled, scrolling floors

ENT

NOTE: to reset default settings, hold the ENT button down until the ME symbol is shown on the display (about 5 seconds).
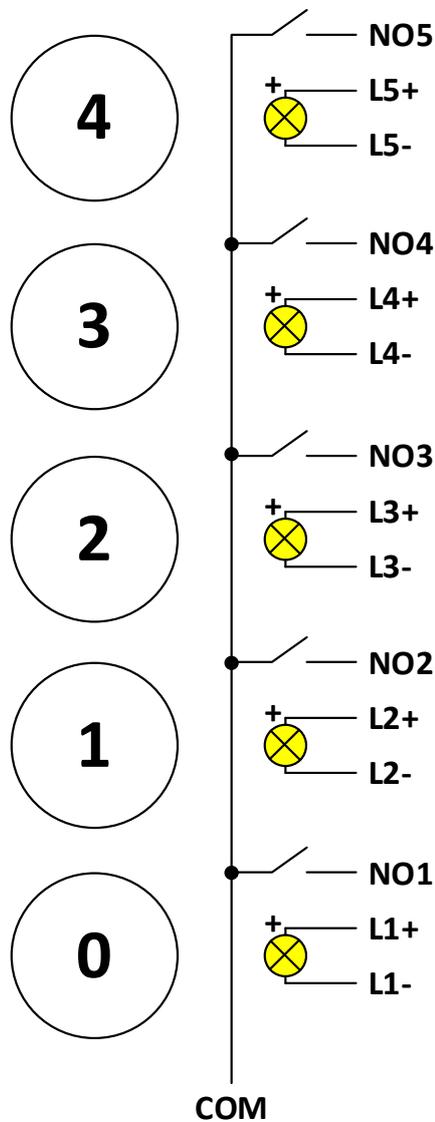
5   BUTTONS PINOUT

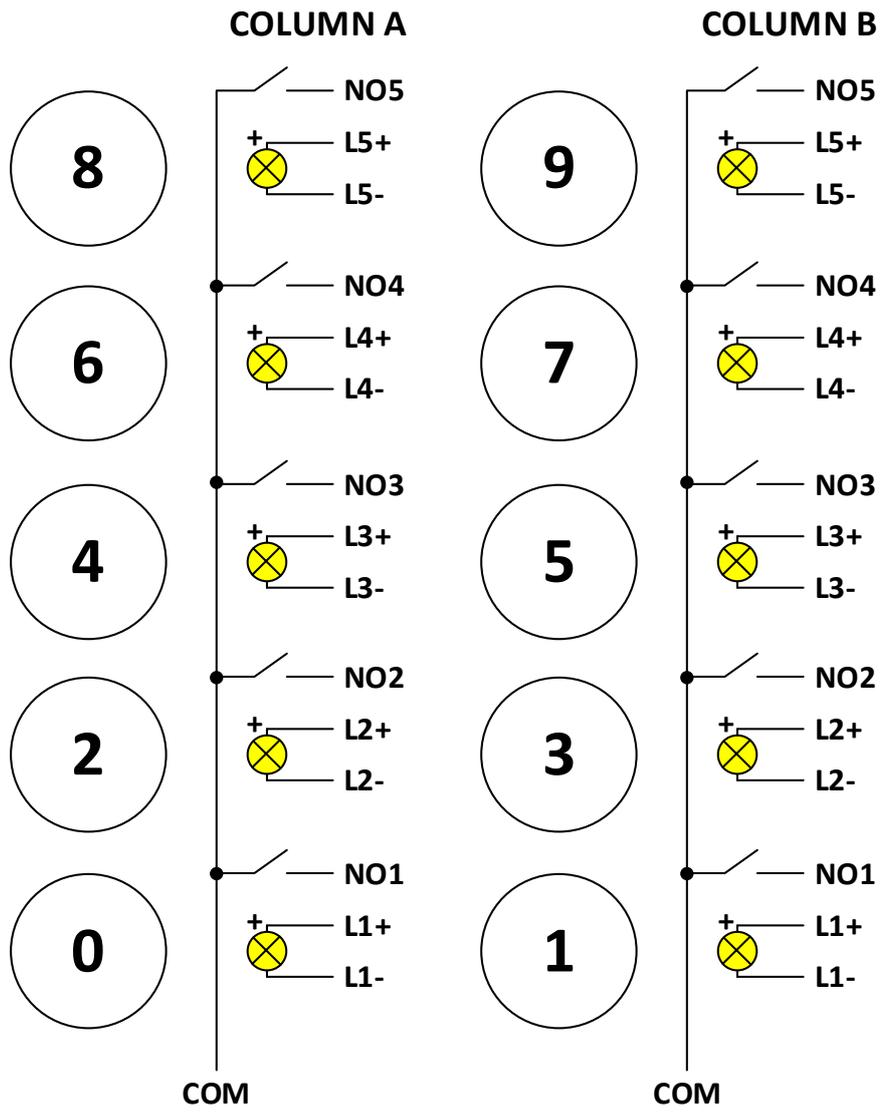The buttons light voltage (between L+ and L-) is 12/24 Vdc

NOTE: Due to the electronic components present in the circuit it is not possible to use the continuity function of the tester to verify the operation of the button contacts.
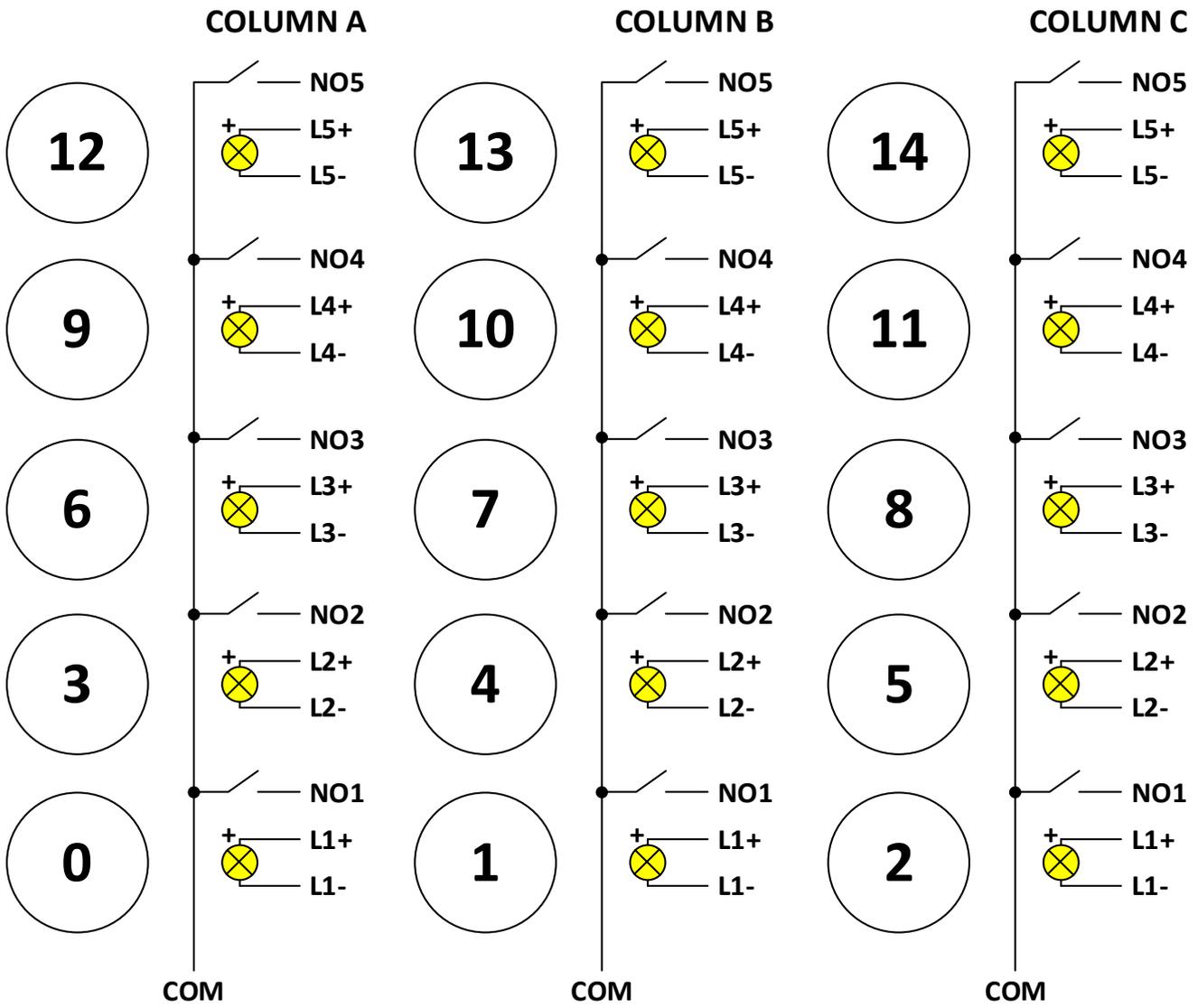
P1

< | >

- NO P1
- L+ P1
- L- P1
- COM P1

P2

- NO1 P2
- NO1 P2
- L+ P2
- L- P2
- COM1 P2
- COM2 P2

P3

> | <

- NO P3
- L+ P3
- L- P3
- COM P3

5.1   SINGLE COLUMN BUTTON PANEL

4
- NO5
- L5+
- L5-

3
- NO4
- L4+
- L4-

2
- NO3
- L3+
- L3-

1
- NO2
- L2+
- L2-

0
- NO1
- L1+
- L1-

COM

COLUMN A

COLUMN B

8	NO5, L5+, L5-	
6	NO4, L4+, L4-	
4	NO3, L3+, L3-	
2	NO2, L2+, L2-	
0	NO1, L1+, L1-	

COM

9	NO5, L5+, L5-	
7	NO4, L4+, L4-	
5	NO3, L3+, L3-	
3	NO2, L2+, L2-	
1	NO1, L1+, L1-	

COM

5.3 THREE COLUMNS BUTTON PANEL

COLUMN A

12
- NO5
- L5+
- L5-

9
- NO4
- L4+
- L4-

6
- NO3
- L3+
- L3-

3
- NO2
- L2+
- L2-

0
- NO1
- L1+
- L1-

COM

COLUMN B

13
- NO5
- L5+
- L5-

10
- NO4
- L4+
- L4-

7
- NO3
- L3+
- L3-

4
- NO2
- L2+
- L2-

1
- NO1
- L1+
- L1-

COM

COLUMN C

14
- NO5
- L5+
- L5-

11
- NO4
- L4+
- L4-

8
- NO3
- L3+
- L3-

5
- NO2
- L2+
- L2-

2
- NO1
- L1+
- L1-

COM

7 TECHNICAL FEATURES

Structure	Plate without box, suitable for renovations. Wall break-in not necessary.
Width	180mm (not customizable)
Height	1000mm (customizable on request)
Thickness	10mm (not customizable)
Materials	Front plate in stainless steel AISI 304 and back frame in sheet metal.
Finishes	Inox satin or Gold satin.
Configurations	With DMX display. Max configuration with 15 floors and 6 services.
Display	White LEDs. Possibility to manage floors from -19 to 19.
Wiring	With free wire connectors headed. Parallel.
Push-buttons	Integrated on the plate. Flush aesthetics. Structure in nylon (PA12) and pressel in polycarbonate (PC) with stainless steel finishes.
Customizations	Not customizable with other displays or pushbuttons.

⚠️ If the device is installed on a metal plate, it is recommended to connect it to the grounding system.

VEGA ®

ITALIAN STYLE FOR LIFTS

CE