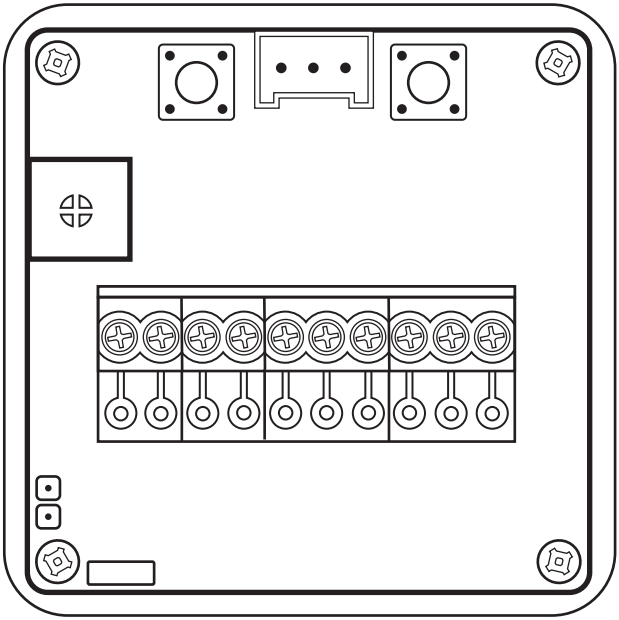
SafeLine

# VV3 manual



Floor display
www.safeline-group.com

Innovation brought to you from **Tyresö**, Sweden

02.2020
SafeLine VV3 v.3.1.1 EN

# Technical data

| | |
|---|---|
| **Supply:** | 24 VDC<br>1 max 50 mA<br>Supply power and inputs should only use regulated voltage |
| **Power:** | 1,2 W |
| **Inputs:** | 20-30 VDC<br>1 max 1 mA |
| **Speaker output:** | 0,6 W at 8 Ω<br>0,3 W at 16 Ω |
| **Current consumption at 24V supply voltage:** | Max 50mA. |
| **Current consumption on each activated input:** | Max 1mA. |

# Content

# General information

This unit was built with state-of-the-art technology and to generally recognised safety related technical standards currently applicable. These installation instructions are to be followed by all people working with the unit, in both installation and maintenance.

It is extremely important that these installation instructions are made available at all times to the relevant technicians, engineers or servicing and maintenance personnel. The basis prerequisite for safe handling and trouble free operation of this system is a sound knowledge of the basic and special safety regulations concerning conveyor technology, and elevators in particular. The unit may only be used for its intended purpose. Note in particular that, no unauthorised changes or additions may be made inside the unit or individual components.

**Exclusion of liability**
The manufacturer is not liable with respect to the buyer of this product or to third parties for damage, loss, costs or work incurred as a result of accidents, misuse of the product, incorrect installation or illegal changes, repairs or additions. Claims under warranty are likewise excluded in such cases. The technical data is the latest available. The manufacturer accepts no liability arising from printing errors, mistakes or changes.

**Declaration of conformity**
Download "The declaration of conformity" at our website: www.safeline-group.com

**Safety Precautions!**
- Only trained professionals, who are authorised to work on the equipment, should install and configure this product.

- This quality product is dedicated for the lift industry. It has been designed and manufactured to be used for its specified purpose only. If it is to be used for any other purpose, SafeLine must be contacted in advance.

- It should not be modified or altered in any way, and should only be installed and configured strictly following the procedures described in this manual.

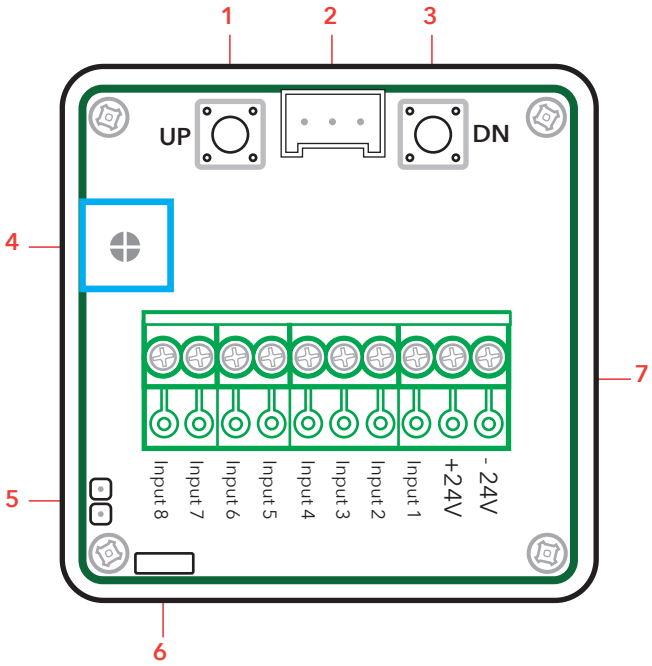
- All applicable health and safety requirements and equipment standards should be considered and strictly adhered to when installing and configuring this product.

- After installation and configuration this product and the operation of the equipment should be fully tested to ensure correct operation before the equipment is returned to normal use.

Electrical and electronic products may contain materials, parts and units that can be dangerous for the environment and human health. Please inform yourself about the local rules and disposal collection system for electrical and electronic products. The correct disposal of your old product will help to prevent negative consequences for the environment and human health.

# Overview

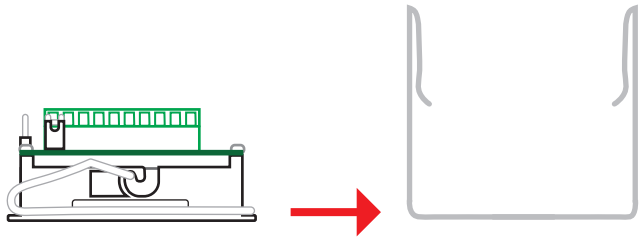
## Introduction

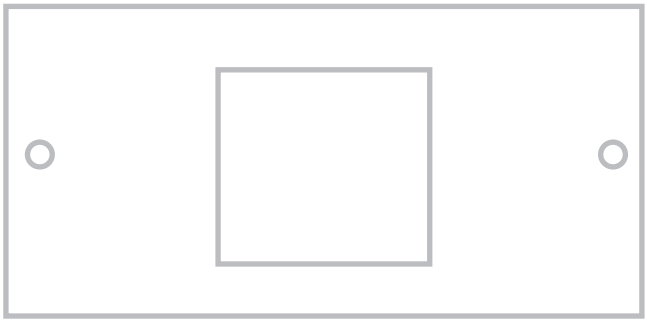



1. UP (Up - used when programming).
2. Rs232 PC connection.
3. DN (Down - used when programming).
4. Volume control.
5. Speaker connector (4-16Ω 0.3W).
6. Jumper to change arrival chime.
7. Connector for inputs and power.

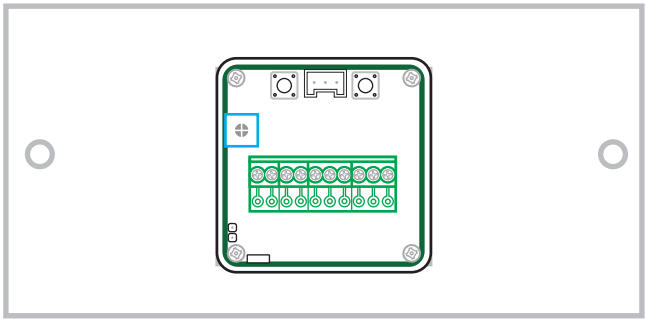
# Operation

## Mounting

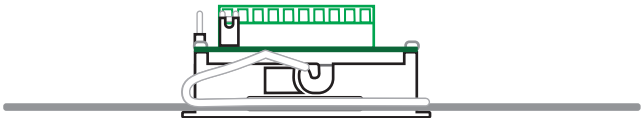




1. Mount the floor indicator in a hole 48x48 mm.



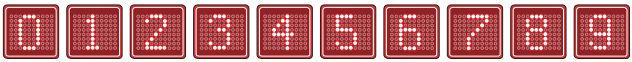
2. The retaining clip is mounted on the backside. Fasten the clips end pins in the two holes on the side of the lens.



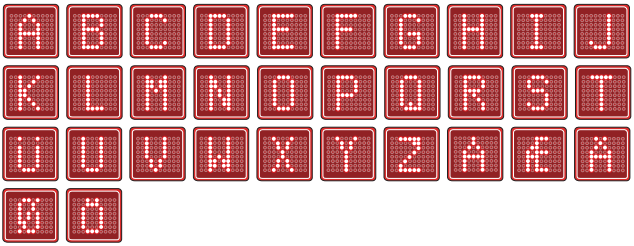
# Signs

The following signs can be displayed:

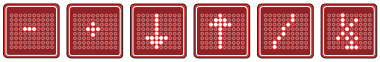
### 0-9



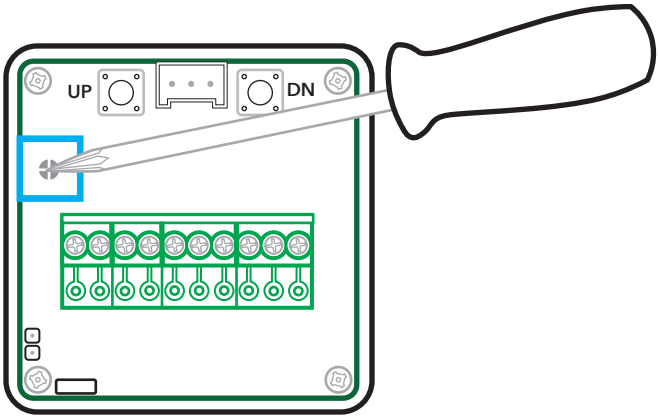
### A-Z, Å, Ä, Ö, Æ, Ø, Ü

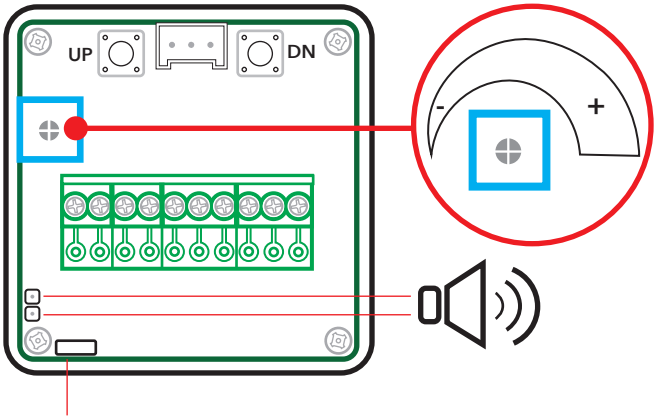


### Symbols



# Volume control



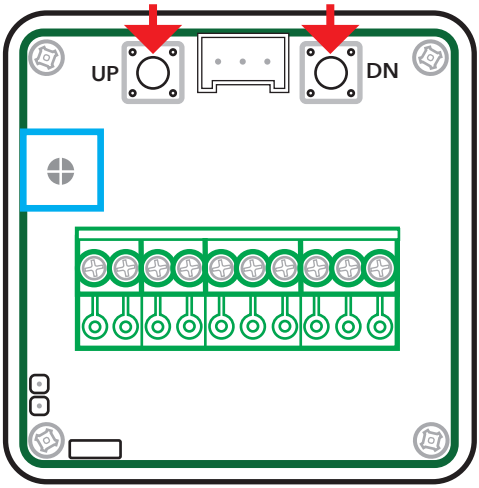




Jumper installed = 3-tones
No jumper = 1 tone up, 2-tones down.

## Programming mode

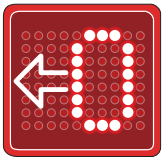
**NOTE! If the floor designation does not need to be changed: Press both buttons for 3 seconds to directly go to the next step of programming.**

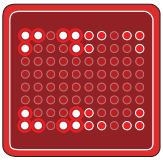
On the back side of VV3, there are two buttons that are marked "UP" & "DN" (down).




The display now shows the digit "0" rolling in horizontally from the right, this means that you can choose what digits or signs you want the floor display to show on floor "0".

Shortly thereafter, two boxes are shown and the left one is flashing.





**NOTE!** "Floor 0" corresponds to "no input is activated" this is only used together with control panels with binary code that starts with "0" (check with your control panel manufacturer).

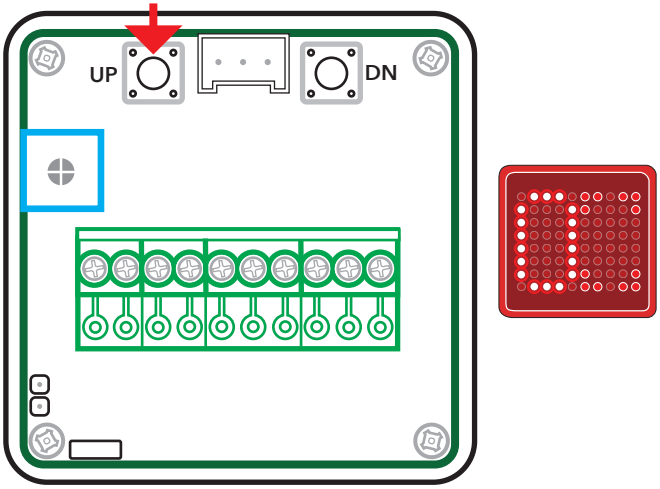
If no sign is programmed on "floor 0" the display will be "latched" this means that if the input signal disappears, the display will continue to show the last floor until a new signal is triggered. This utility can be used when installing VV3 in older lifts that are relay-controlled.

# Programming mode

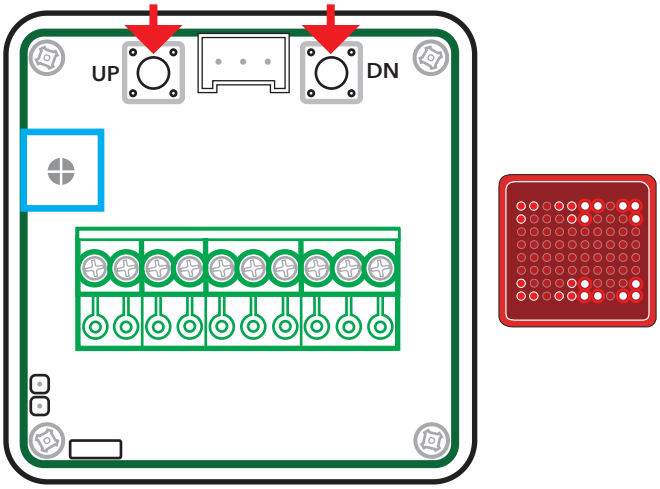
**If single signs are being programmed ex. B,E,1, etc. place the sign on the right side, this will display the sign in the middle of the display.**

By using the "up" or "down" button the left sign can now be changed.

By pressing "up" once a "0" will start flashing. Pressing "up" once more, a "1" will start flashing. Continue until you come to the sign you want to use.




Choose what sign you want to show on the left side of the display. Thereafter press the two buttons simultaneously for 0.5 second.

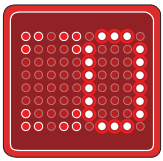



The right box will now start to flash.
By using the "up" or "down" button the right sign can be changed.

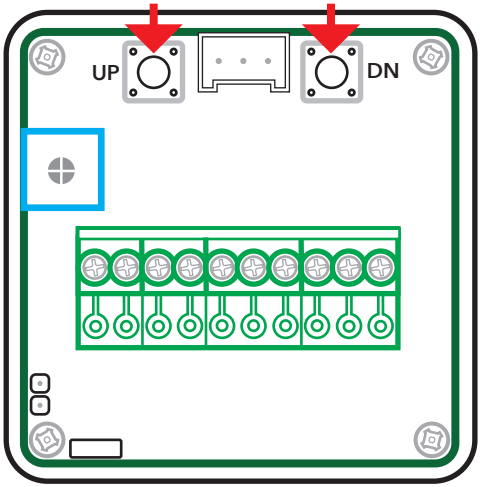
# Programming mode

By pressing “up” once, a “0” will start flashing. Pressing “up” once more, a “1” will start flashing. Continue until you come to the sign you want to use.

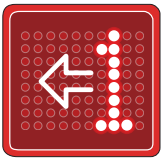
Choose what sign you want to show on the right side of the display.



Thereafter press the two buttons simultaneously for 0.5 second to continue to the next floor.

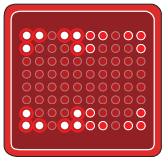



The display is now rolling ”1” horizontally. This means that the floor ”1” is ready to be programmed.

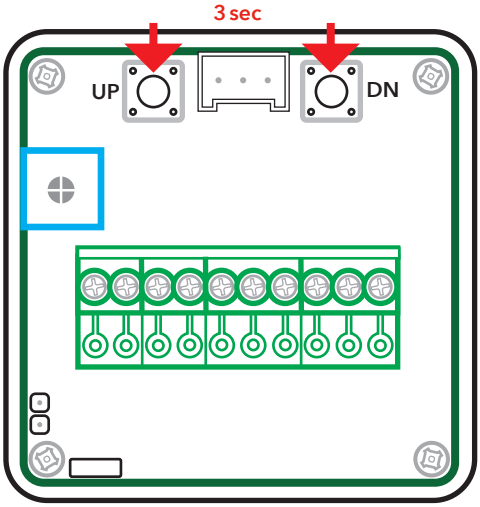


# Programming mode

Shortly thereafter, two boxes are shown and the left one is flashing.



By using the "up" or "down" button the left sign can now be changed. Program this floor the same way as the previous floor.




Repeat this procedure until all floors (you want to be displayed) are programmed. When all floors have been programmed:

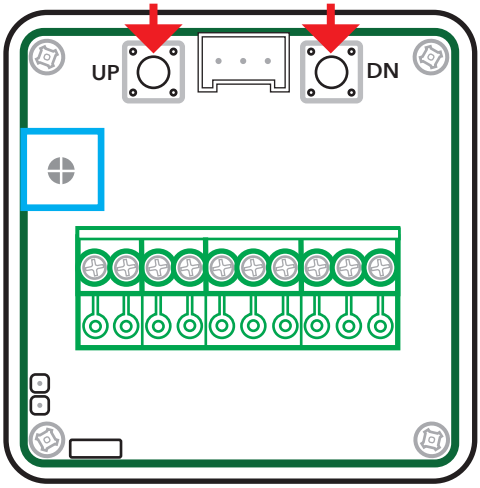
Press the two buttons simultaneously for 3 seconds, this will take you to the next step of programming.

# Addressing the floor indicator

**(select which floor the display will be mounted on).**

The VV3 displays the text "SELECT FLOOR". This information is being used for showing direction arrows and arrival chime.

Choose which floor the display will be mounted on, use the buttons to step up or down between the floors you have programmed. The travelling direction arrows will automatically work if they are connected (refer to the electric diagram on page 18) and the address is programmed.




When the display shows the digit that corresponds to the floor it will be mounted on, select it, by pressing the two buttons simultaneously for 0.5 second.

# Select input format

**Note! By choosing "Decimal", next step of programming will be excluded.**

The display shows the text "SELECT INPUT FORMAT". Select between "BINARY", "DECIMAL" or "GRAY" using the up and down buttons.

Binary = Binary code.
Decimal = One signal to each floor
(this sets the limit to maximum 8 floors).
Gray = Gray code.

Select FORMAT by pressing the two buttons simultaneously for 0.5 second. Consult your control-panel manufacturer if you don't know witch FORMAT to select.

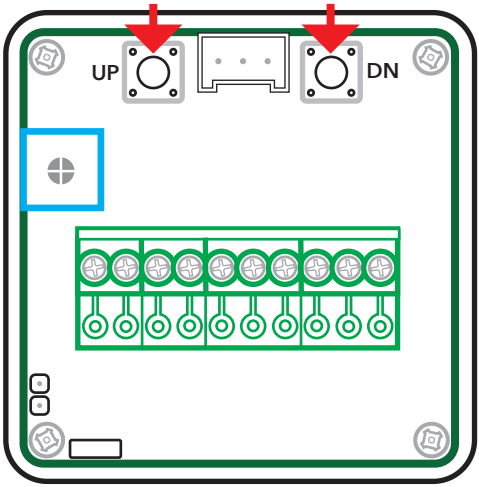
# Select fixed message

**NOTE! Fixed messages will not be shown when the interface signal is set to Decimal signals.**

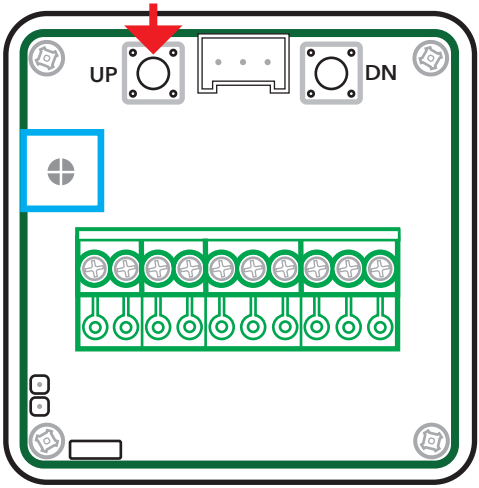
**Tip! The fixed messages can easily be changed with our freeware programming tool SafeLine Pro.**

The display shows the text "SELECT FIXED MESSAGES". Select fixed message by using the up and down buttons.

"OVERLOAD", "SERVICE" , "OUT OF SERVICE".
The fixed message will be displayed when voltage is added to input 5. Leave the programming mode by pressing the two buttons simultaneously for 0.5 second. The programming is now completed.



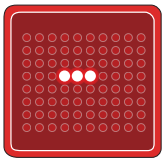

**To verify your programming.**
Press the "UP" button for 3 seconds, the display will now show all the signs that have been programmed on the floors.



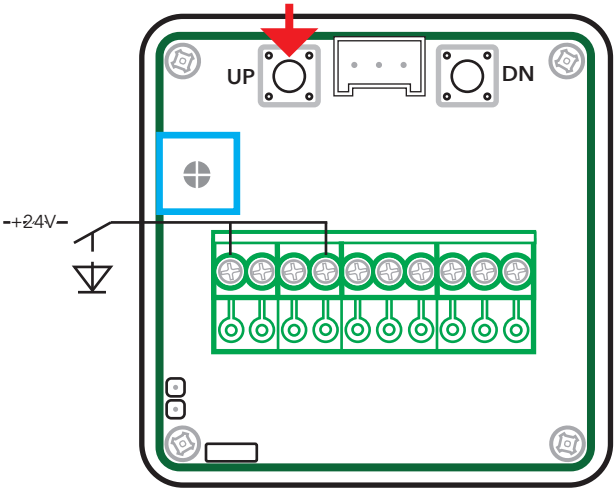
# Overload

If you want to use an input to display "OVERLOAD":

1. At programming step 3 "ADDRESSING FLOOR INDICATOR" select the "-"minus sign at "SELECT FLOOR".



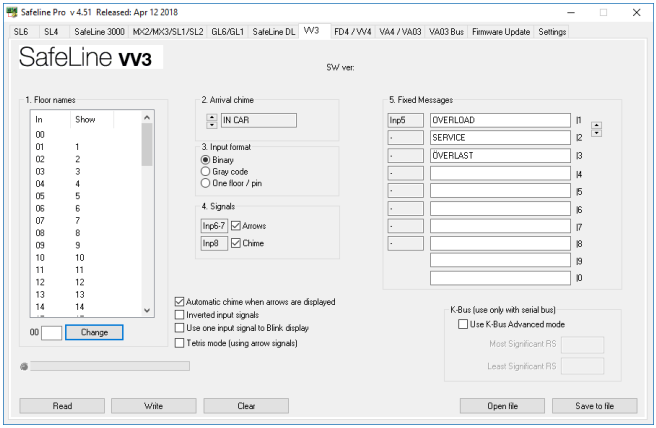
2. At programming step 5 select "OVERLOAD".
3. Connect a speaker to the pin-connector marked "speaker".
4. Connect the inputs so that connector 7 and 10 will be activated at the same time as the overload contact.



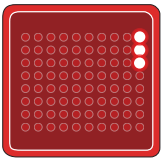

When overload is activated, the VV3 will show the "OVERLOAD" text and the speaker will sound.

# Programming VV3 with SafeLine Pro

With the software SafeLine Pro the inputs can be programmed and changes in the fixed text messages can be made and downloaded to the VV3.




## Tetris mode:



Tetris mode shows the direction of the car (instead of arrows) and is displayed by three scrolling LED's at the right side of the display. To program Tetris mode, use SafeLine Pro and check the box "Tetris mode (using arrow signals)".

## Resetting VV3:

To reset all configuration to factory settings:
Keep the two buttons pressed down while connecting the VV3 to supply voltage,release after 5 seconds.

## Travelling direction arrows and fixed messages:

Travelling direction arrows and fixed messages is shown as long as the input is active. When using the travelling direction arrows the address must be correct (refer to the "Addressing the floor indicator"-chapter on page 10).

## Positive/Negative input signals:

Floor display VV3 can be programmed for positive or negative input signals. Factory settings are positive input signal. To program negative input signals, use SafeLine Pro and check the "Inverted input signals" box.

# Interface signals

## Binary signals

Binary code is a standardized way to control outputs that are used for floor displays. The benefit is that you use less output signals to control multiple signals. I.e. there are only 3 signals needed to display 7 floors, 4 signals to display 15 floors, 5 signals to display 31 floors etc.

**Example:**

| Floor | Code | Floor | Code |
|---|---|---|---|
| 0 | 0000 | 8 | 1000 |
| 1 | 0001 | 9 | 1001 |
| 2 | 0010 | 10 | 1010 |
| 3 | 0011 | 11 | 1011 |
| 4 | 0100 | 12 | 1100 |
| 5 | 0101 | 13 | 1101 |
| 6 | 0110 | 14 | 1110 |
| 7 | 0111 | 15 | 1111 |

## Gray code signals

Gray code is a slightly more rare way to control floor displays. It is often used on older controllers.

**Example:**

| Floor | Code | Floor | Code |
|---|---|---|---|
| 0 | 0000 | 8 | 1100 |
| 1 | 0001 | 9 | 1101 |
| 2 | 0011 | 10 | 1111 |
| 3 | 0010 | 11 | 1110 |
| 4 | 0110 | 12 | 1010 |
| 5 | 0111 | 13 | 1011 |
| 6 | 0101 | 14 | 1001 |
| 7 | 0100 | 15 | 1000 |

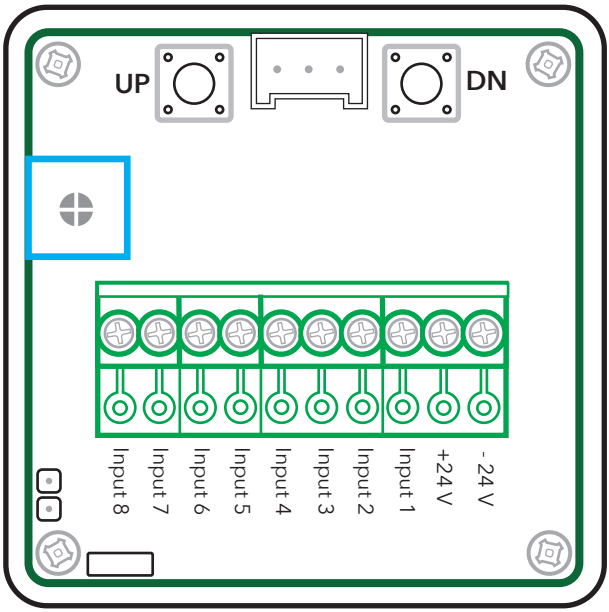
## Decimal signals (one-floor-per-pin)

The old way to control floor displays are called Decimal or one-floor-per-pin. One output signal is needed for every floor, i.e. 8 outputs for 8 floors.

**Example:**

| Floor | Code |
|---|---|
| 1 | 10000000 |
| 2 | 01000000 |
| 3 | 00100000 |
| 4 | 00010000 |
| 5 | 00001000 |
| 6 | 00000100 |
| 7 | 00000010 |
| 8 | 00000001 |

# Interface signals




**Connecting binary signals:**
Input 1 = Binary signal 1
Input 2 = Binary signal 2
Input 3 = Binary signal 4
Input 4 = Binary signal 8
Input 5 = Fixed message.
Input 6 = Arrow up.
Input 7 = Arrow down.
Input 8 = Arrival chime

**Connecting gray code signals:**
Input 1 = Gray code 1
Input 2 = Gray code 2
Input 3 = Gray code 4
Input 4 = Gray code 8
Input 5 = Fixed message.
Input 6 = Direction arrow up.
Input 7 = Direction arrow down.
Input 8 = Arrival chime.

**Connecting decimal signals (one-floor-per-pin):**
Input 1 = Floor 1
Input 2 = Floor 2
Input 3 = Floor 3
Input 4 = Floor 4
Input 5 = Floor 5
Input 6 = Floor 6
Input 7 = Floor 7
Input 8 = Floor 8


**TIP!** With SafeLine Pro the connection of the inputs can be optimized.

Inputs need +24V to go active. If using negative signals inactive inputs need to be +24V

# EU Declaration of Conformity

| | |
|---|---|
| Product: | Floor display |
| Type / model: | **VV3** |
| Article no: | *VV3, *VV3_BLUE, *VV3_YELLOW, *VV3KBUS, *VV3KBUS_BLUE |
| Manufacturer: | SafeLine Sweden AB |
| Year: | 2017 |

We herewith declare under our sole responsibility as manufacturer that the products referred to above complies with the following EC Directives:

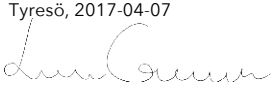
## Directives

| | |
|---|---|
| Electro Magnetic Compatibility: | 2014/30/EU |
| RoHS 2: | 2011/65/EU |

## Standards applied

| | |
|---|---|
| EN 12015:2014 | EMC: Emission, Electromagnetic compatibility |
| EN 12016:2013 | EMC/Lifts: Immunity, Electromagnetic compatibility |
| EN 50581:2012 | RoHS: Technical doc. for assessment of restriction of RoHS. |

Tyresö, 2017-04-07



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