

## Elevator load control device SenS Lift™

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A low-angle, upward-looking photograph of a modern building's exterior. The image shows a complex network of white-painted steel beams and glass panels, creating a strong geometric pattern. The perspective is from below, looking up at the structure, which emphasizes its height and architectural details. The lighting is bright, suggesting a sunny day, and the overall color palette is dominated by the white of the steel and the clear blue of the sky visible through the glass.

### **VEDA Group of Companies:**

- More than 100 years of production experience
- Over 120,000 strain gages per year
- Over 5,000 elevator load devices per year
- Over 25,000 load cells per year.



## Elevator load control device SenS Lift

The next generation elevator load control device SenS Lift measures the signals from the load cells and is used to control the elevator's load.

The device has between 1 and 6 independent measuring channels for full-bridge type load cells. Temperature compensation and digital signal processing are performed for every channel.



### SENS LIFT IS EASY TO INSTALL UNIVERSAL DEVICE:

#### 1 Simplified installation

- ▶ Elevator load capacity is set at the site (standard load or user value).
- ▶ Calibration is performed by saving empty car weight and for additional precision known weight (for example, installation personnel weight).

#### 3 Universal device for working with different load cells

The device can be used with various types of load cells:

- ▶ floor (LA series)
- ▶ wire rope (LB series)
- ▶ machine bed frame (LD series).

#### 5 Versatile power supply

The device power supply:

- ▶ DC 24V
- ▶ AC 110V, 50-60 Hz
- ▶ AC 220V, 50 Hz.

Power consumption is less than 5 watts.

#### 2 Simplified controls

- ▶ The keyboard allows you to choose the data display mode, enter load capacity, calibrations and other data.
- ▶ User-friendly English interface (other languages are optional).

#### 4 Extended relay output functionality

The device generates dry contact relay output signals:

- ▶ 15/20 kg (helps to detect a child's weight)
- ▶ 50% of net rated load (emergency evacuation)
- ▶ 90% of net rated load (optimization of the elevator)
- ▶ 110% of net rated load.

Relay output "15/20 kg" uses a polarized relay. In case of power outage this allows emergency lighting to go on when passengers are trapped inside.

## SENS LIFT WITH 4 FLOOR LOAD CELLS

Sens Lift with floor load cells is used on elevators with fixed floor and the following load capacities, kg:

- ▶ 400
- ▶ 630
- ▶ 1000
- ▶ Value, set by user but not more than Net rated load (1,000 kg).



### Specifications for SenS Lift with load cells under the floor

| Parameters   | Value                                     | Limit                          |
|--|---|--------------------------------|
| Gross rated load, kg   | 2,300                                     | max                            |
| Net rated load, kg   | 1,000                                     | max                            |
| Minimum load, kg   | 20  |                                |
| Total error, %   | ± 1                                       | of net rated load              |
| Power consumption, W   | 5   | max                            |
| Power  | AC 220V/50Hz<br>AC 110V/50-60Hz<br>DC 24V | ±10%/±1Hz<br>±10%/±1Hz<br>±15% |
| Safe overload, % Net rated load  | 150                                       | min                            |
| Ultimate overload, % Net rated load  | 300                                       | min                            |
| Working temperature, °C  | from -20 to +50                           | range                          |
| Ingress Protection (according to EN 60529):<br>load cell PVT-L<br>SenS Lift device<br>connecting box | IP67<br>IP20<br>IP54                      |                                |
| Average full service life, years   | 25  | min                            |

### Elements of SenS Lift with 4 floor load cells

| Item             | Dimensions, mm |       |        | Weight kg |
|------------------|----------------|-------|--------|-----------|
|                  | Length         | Width | Height |           |
| Load cell PVT-L  | 200            | 80    | 50     | 0,72      |
| SenS Lift device | 135            | 135   | 32     | 0,30      |
| Connecting box   | 70             | 26    | 24     | 0,05      |
| Connection cable | 5000           | Ø 8   |        | 0,32      |



## SENS LIFT WITH WIRE ROPE LOAD CELL

Depending on the elevator's load capacity, its design features and the number of wire ropes, SenS Lift with wire rope load cells can be calibrated to different load capacity.



### Specifications of a single wire rope load cell

| Parameters                                 | Value           | Limit          | Notes   |
|--|-----------------|----------------|---------|
| Operating load (OL), kg                    | 1,000           | max            |         |
| Total error, % OL                          | 1,0             | max            |         |
| Sensitivity, mV/V                          | 2               | -0,5/+0,2      |         |
| Wire rope diameter, mm                     | 8, 10, 12       |                |         |
| Excitation, V                              | from 2,5 to 12  | range          |         |
| Working temperature, °C                    | from -35 to +70 | range          |         |
| Temperature coefficient °C, % OL           | 0,03            |                |         |
| Input / output resistance, Ohm             | 400             | ± 4,0          |         |
| Insulation resistance, MOhm                | 1,000           | min            | DC 100B |
| Ingress Protection (according to EN 60529) | IP67            | not worse than |         |
| Safe overload, % OL                        | 150             | min            |         |
| Ultimate overload, % OL                    | 200             | min            |         |

Net rated load of SenS Lift with wire rope load cells depends on the number of load cells.

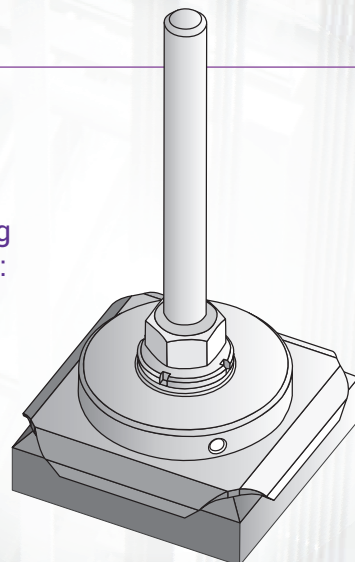
### Elements of SenS Lift with rope load cells

| Item             | Dimensions, mm |       |        | Weight, kg |
|------------------|----------------|-------|--------|------------|
|                  | Length         | Width | Height |            |
| Rope load cell   | 126            | 22    | 60     | 0,30       |
| SenS Lift device | 135            | 135   | 32     | 0,30       |
| Connecting box   | 70             | 26    | 24     | 0,05       |
| Connection cable | 5,000          | Ø 8   |        | 0,32       |

## SENS LIFT WITH MACHINE BED FRAME LOAD CELLS

SenS Lift LD series with machine bed frame load cells has the following characteristics in addition to the functionality of SenS Lift, LA and LB series:

1. Analog output to control the frequency drive, whose signal is proportional to the net weight. The analog output is galvanically isolated and can be configured as current or voltage output with different ranges.
2. In the formation of the control logic, a galvanically isolated logic input can be used, the input signal levels are from 24 V DC to 220 V AC.



### Specifications of SenS Lift with machine bed frame load cells

| Parameters  | Value                              | Limit  |
|---|------------------------------------|--|
| Gross rated load, kg  | 4,000                              | max  |
| Net rated load, kg  | 2,000                              | max  |
| Minimum load, kg  | 15                                 | max  |
| Total error, %  | ±0,5                               | of net rated load                                  |
| Safe overload, % Net rated load   | 150                                | min  |
| Ultimate overload, % Net rated load   | 300                                | min  |
| Conversion cycle time, ms   | 100                                | min  |
| Number of load cells  | 2                                  |  |
| Outputs:  |                                    |  |
| relay   | 4                                  | AC 220V - 0,1A/<br>DC 30V - 3A<br>current/ voltage |
| analog  | 1                                  |  |
| Logical output, V   | from 24 DC to 110 AC               |  |
| Ingress Protection (according to EN 60529):<br>load cells<br>SenS Lift device | IP54<br>IP20                       |  |
| Working temperature, °C   | from - 20 to +50                   | range  |
| Power supply  | 24V DC<br>110V, 60Hz<br>220V, 50Hz | ± 20 %<br>± 15 %<br>± 15 %                         |
| Power consumption, W  | 5                                  | max  |
| Service life, years   | 25                                 | min  |

### Elements of SenS Lift with machine bed frame load cells

| Item                              | Dimensions, mm |       |        | Weight, kg |
|-----------------------------------|----------------|-------|--------|------------|
|                                   | Length         | Width | Height |            |
| Under machine bed frame load cell | Ø 100          |       | 25     | 0,10       |
| SenS Lift device                  | 135            | 135   | 32     | 0,30       |
| Connecting box                    | 52             | 26    | 24     | 0,05       |
| Connection cable                  | 5000           | Ø 8   |        | 0,32       |









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