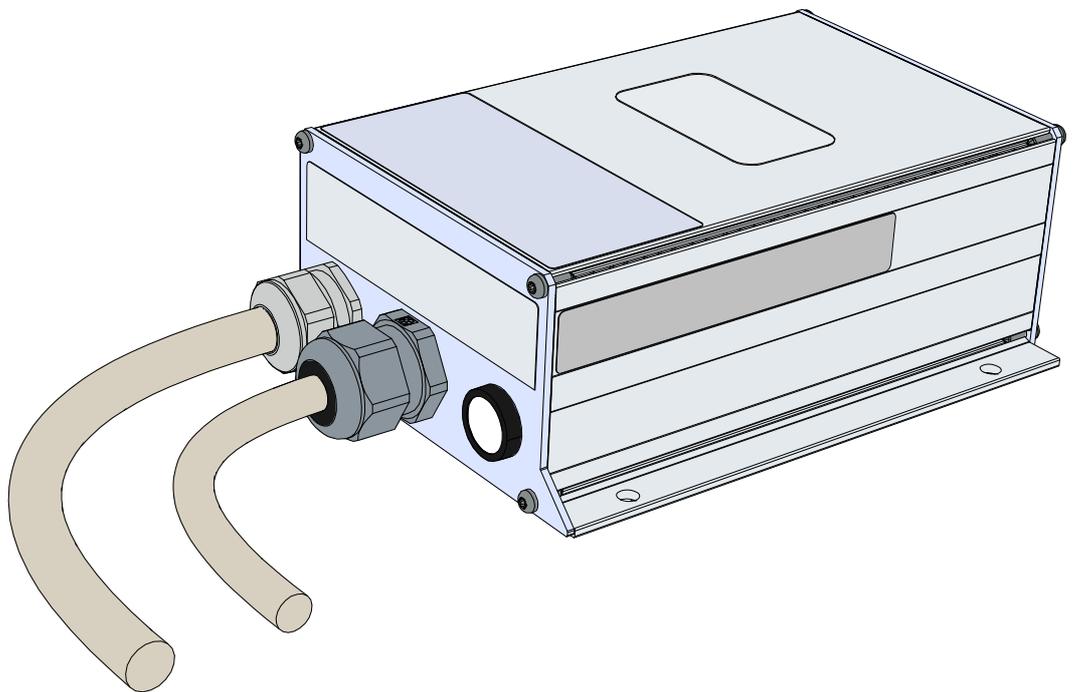


SAFE BOX ⇒ **LIMAX33 SAFE** ⇒ **LIMAX44 SAFE**

Evaluation Box for SIL3 Safety Monitoring of Elevators



- Safety function unit for the redundant shaft information systems LIMAX33 RED & LIMAX44 RED
- Replaces electromechanical components in the elevator shaft
- Electronic evaluation unit with implemented safety-relevant switching and control functions
- Up to 3 safety relay pairs for safety-relevant switching and control functions
- Up to 5 safety inputs, 1 electronical output and 1 safety circuit input
- CANopen DS406 interface (others on request)
- RS485 interface for sensor communication
- EC type examination tested (EN 81-20/50)
- TÜV certification for SIL3

SAFE BOX - Evaluation Box for SIL3 Safety Monitoring of Elevators

General and Function:

SAFE BOX is a useful extension of the redundant absolute shaft information systems LIMAX33 RED and LIMAX44 RED. It serves as an additional component for monitoring the position and speed of the car, as well as the shaft and cabin doors. The system ensures important safety-relevant requirements in the elevator shaft, for example:

- Limit switch function
- Speed limitation, also relative to the distance to the shaft end
- Door-bridging function for leveling and readjust with open doors
- Detection of unintended car movement with open doors

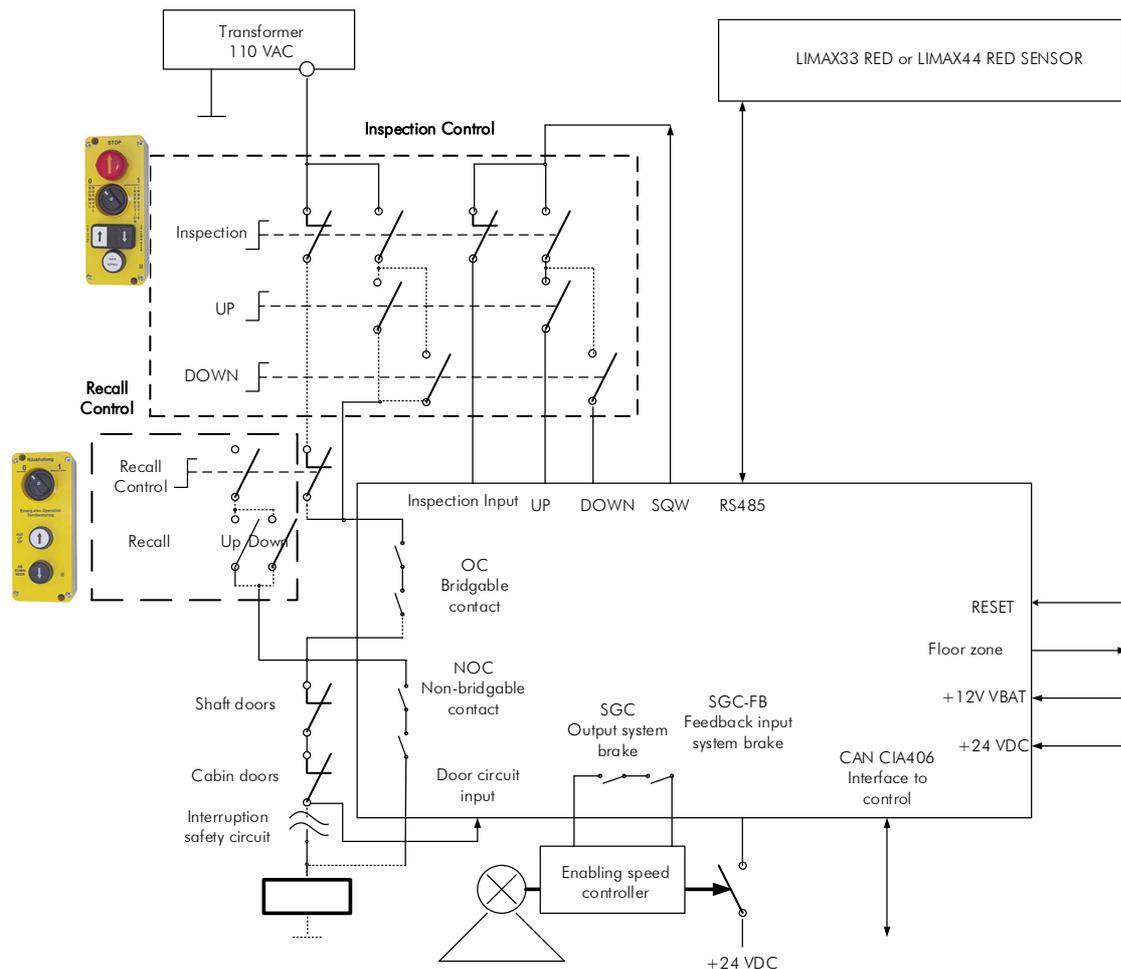
In case of error, the safety circuit will be opened and/or the clasp brake will be triggered. The SAFE BOX is SIL3 certified by TÜV and comply the requirements of the EN81-20 norm. In order to assure a redundancy of the entire function, relevant hardware components like relay contacts and microcontrollers are integrated twice.

The SAFE BOX evaluates the position of the lift and emulates the shaft end zone switch and door zone switch. To ensure rapid opening of the elevator doors on each floor, the door is opened before it reaches the door threshold.

Apart from speed control and deceleration control, the SAFE BOX guarantees (the function of) protection from unintended movement of the elevator car with open doors. The safety circuit will be opened and/or the safety gear will be triggered in case of overspeed. By eliminating the conventional monitoring components of shaft information systems, extensive cost savings can be realized.

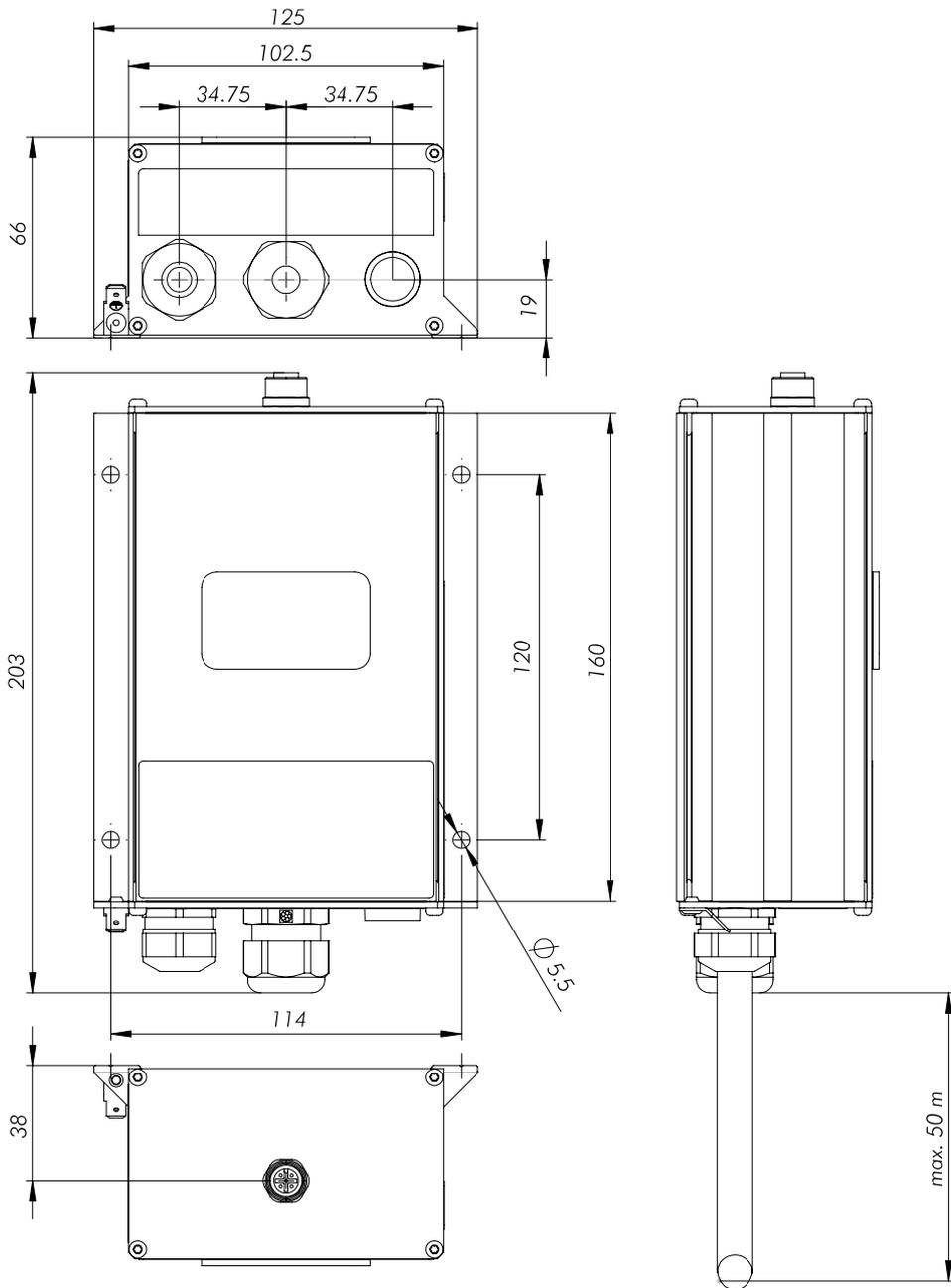
If an error occurs, the SAFE BOX can be replaced without having to remove the sensor and vice versa.

Integration into the Safety Circuit:

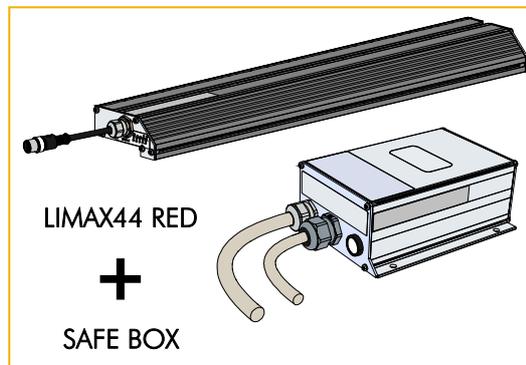
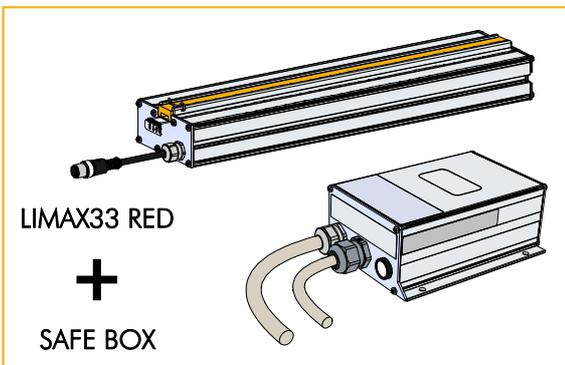


The SAFE BOX is integrated directly into the safety circuit of the elevator and actively influences the drive and the safety gear in case of a fault. This ensures a safe operation of the elevator at all times.

SAFE BOX Dimensions:



Available Combinations:



System Designation ⇒ **LIMAX33 SAFE***

System Designation ⇒ **LIMAX44 SAFE**

*) The LIMAX33 SAFE system includes the certified LIMAX S-RMS magnetic tape mounting kit with safety position switch for an easy and uncomplicated installation of the magnetic tape.

