Evaluation unit | PSU02 | Safety functions according to EN 81-20/21/50



SIL3 Functional Safety EN 81

The PSU02 evaluation unit is used in combination with the Ants LES02 or Ants LES03 sensors to implement elevator and safety functions according to EN 81-20/-21/-50.

In combination with the LES02 sensor, numerous elevator and safety functions can be implemented as the **Kübler Safe system LES02/PSU02**.

To the Safe-System LES02/PSU02 >

With the combination of the evaluation unit PSU02 with the sensor Ants LES03 and the Safety Gear Trigger SGT02, the electromechanical safety gear of the elevator system can also be triggered and monitored as the **Kübler Safe-System LES03/SGT02/PSU02**.

To the Safe-System LES03/SGT02/PSU02 >

RoHS

CANopen LIFT

Features and benefits

- **Digitization of elevator systems**
  Safe determination, transmission and processing of position and speed information of the elevator car.
- **Safety circuit**
  The PSU02 evaluation unit is a central component in the safety concept of every elevator system. It communicates with the elevator control system and opens the safety circuit via safety relays depending on the application or in the event of a fault.
- **Smart Teaching – simple and safe**
  In order to be able to digitally simulate the traditional shaft installation, we offer a Smart Teaching Unit with which, for example, the position of the emergency limit switches or the door zone information can be taught into the PSU02 via smartphone.
- **Elimination of existing components**
  Numerous components such as magnetic switches, ramps, roller limit switches can be eliminated thanks to the digitally available shaft information.
- **Minimization of installation and maintenance times**
  Reduced installation and maintenance times due to fewer components with their integration into the overall system. Even the mounting kit for the installation of code band and sensor is designed according to the „plug-and-play“ principle.

Order code PSU02

8.PSU02	.	1121	.	2211
Type				

- Top-hat rail mounting
- Interface profile CANopen Lift, DS417 V2.2.8

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Technical data

Mechanical characteristics

Max. number of floors		200
Connection		picoMAX® eCOM 3.5
Switch-off time / System reaction time		< 25 ms (incl. relay switching time)
Housing (material)		plastic
Mounting		top-hat rail mounting
Dimensions	L x W x H	116 x 96 x 31 mm [4.55 x 3.78 x 1.21“]

Electrical characteristics

Supply voltage	24 VDC ±10 %, low voltage PELV
Power	< 10 W

Characteristics CANopen

Internal interface – CAN1 (between Ants LES02 and PSU02)	CAN proprietary, V1.0.0
External interface – CAN2 (between PSU02 and control)	CANopen Lift, DS417 V2.2.8
Termination	120 Ω with CAN1 and CAN2

Environmental conditions

Protection acc. to EN 60529	IP00 (min. IP20 when mounted in cabinet)
Humidity	< 90 % (non condensing)
Working temperature	-5 °C ... +55 °C [+23 °F ... +131 °F]
Storage temperature	-10 °C ... +70 °C [+14 °F ... +158 °F]
Air pressure (operating altitude)	800 ... 1013 hPA (up to 2000 m above sea level)

Safety characteristics

Classification	SIL3
PFH_d value	< 10^{-8} h^{-1}
Mission time / Proof test interval	20 years

Standards / Directives / Certificates

Standards	standards for elevators	EN 81-20/21/50
CE compliant in accordance with		
	EMC Directive	2014/30/EU
	RoHS Directive	2011/65/EU
	Elevator Directive	2014/33/EU

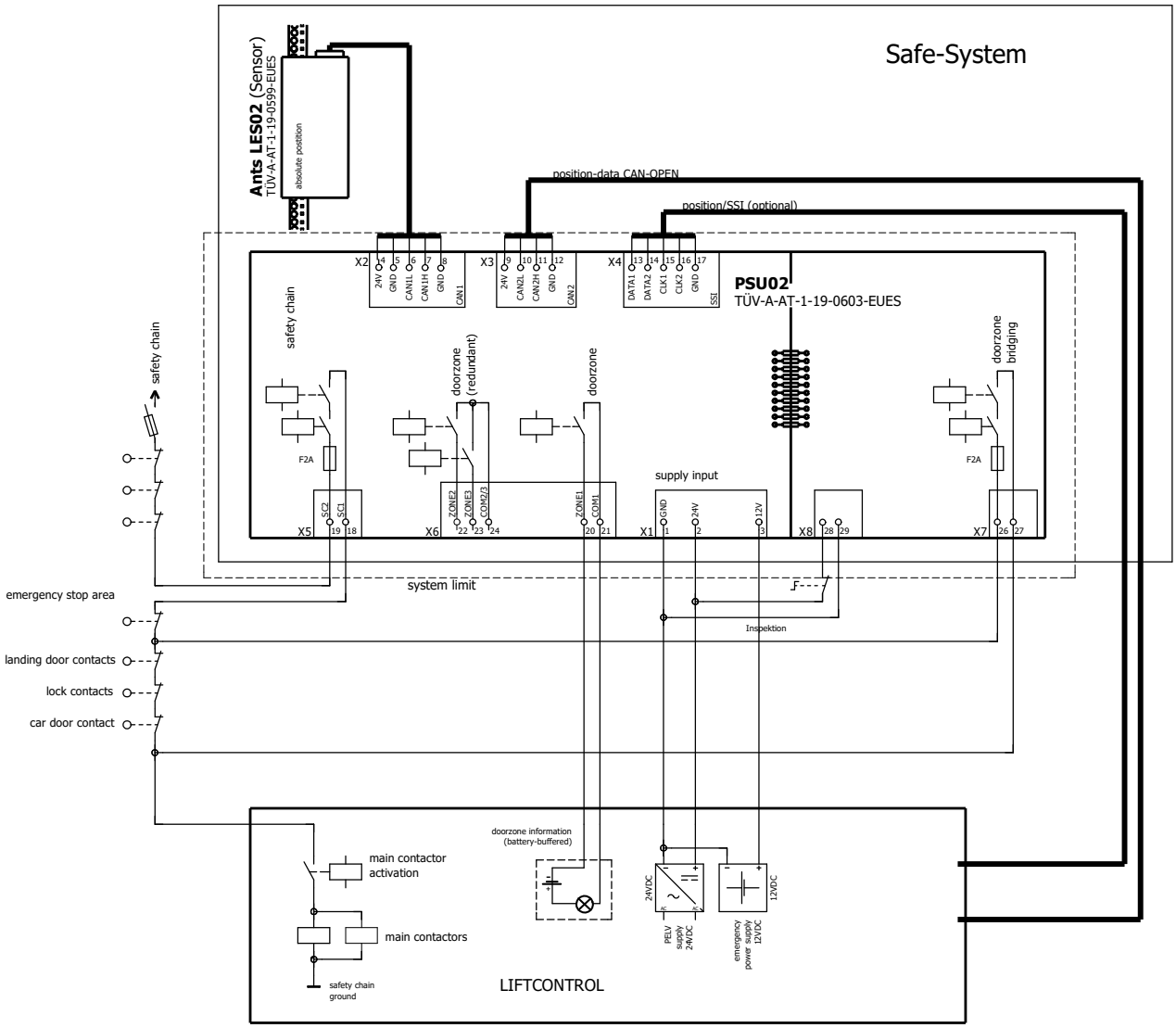
Realizable elevator and safety functions

	Standard references	SIL	
Absolute position feedback	no standard reference	–	✓
Final limit switch	EN 81-20: 5.12.2.3.1 b)	1	✓
Retardation control (in case of reduced stroke buffers)	EN 81-20: 5.12.1.3	3	✓
UCM (Unintended Car Movement)	EN 81-20: 5.6.7.7	2	✓
Door bridging	EN 81-20: 5.12.1.4 a), b), c), 2), d)	2	✓
Two redundant signals for the door zone (door zone magnet emulation)	no standard reference	–	✓
Overspeed pretripping 115 %	EN 81-20: 5.6.2.2.1.6	2	(✓) functional
Inspection limit switch within reduced shaft head / pit	EN 81-21: 5.5.3.4, 5.7.3.4	2	✓
Functional safety already from wiring (without presetting)	no standard reference	3	✓
Overspeed during inspection (0.63 m/s)	EN 81-20: 5.12.1.5.1 e)	–	✓

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Evaluation unit	PSU02	Safety functions according to EN 81-20/21/50

Wiring diagram Safe-System LES02/PSU02

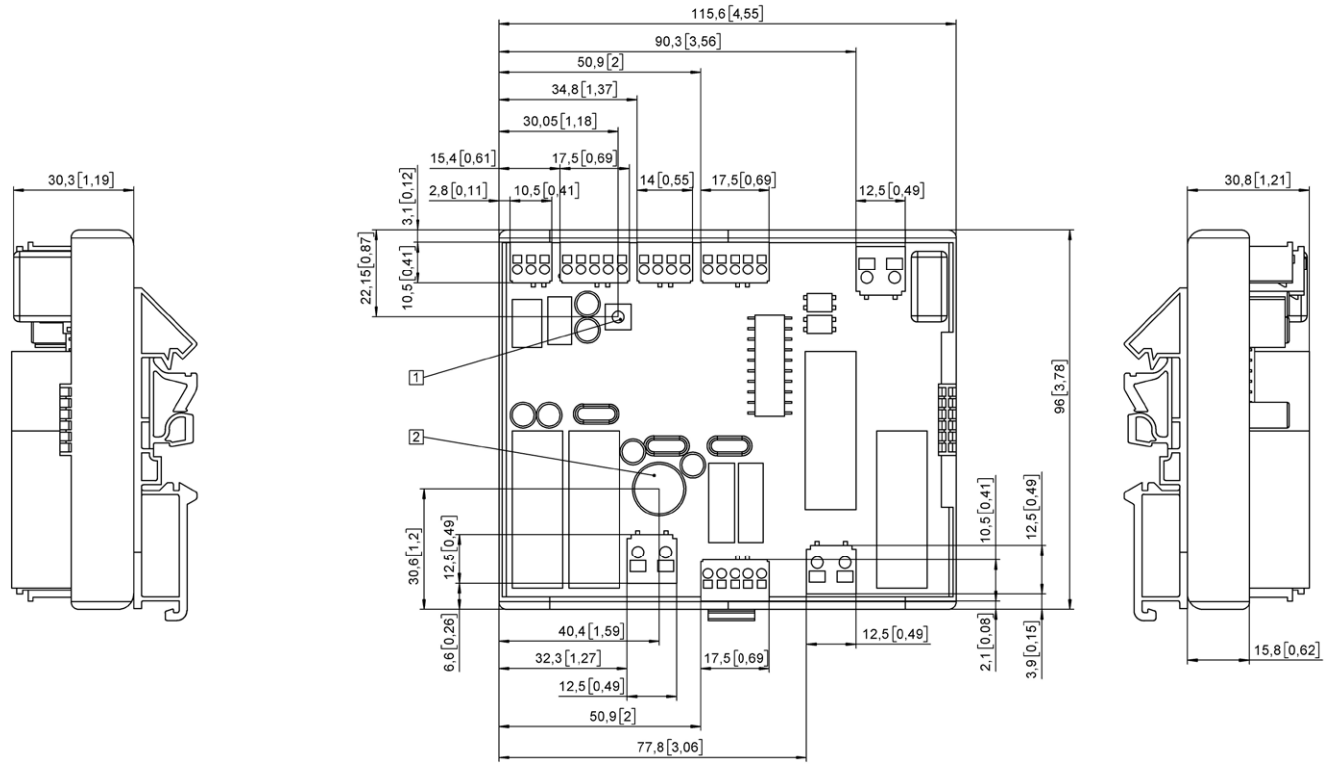


Evaluation unit | **PSU02** | **Safety functions according to EN 81-20/21/50**

Dimensions

Dimensions in mm [inch]

Evaluation unit PSU02
(Installation on all DIN EN top hat rails)



1 Pushbutton
2 Signal generator

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