

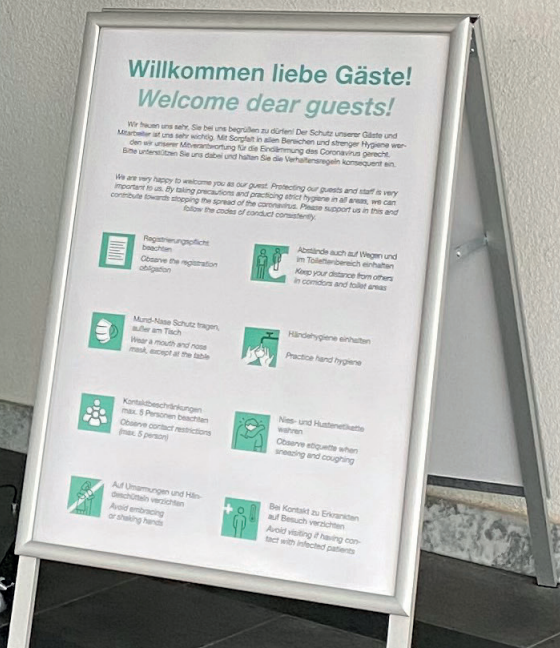
SEM - Digital people counting for unmatched reliability

Accurate counting of people at entry and exit areas. Precise, anonymous and informative

Sensotek's Smart Entrance Manager is the first modular system on the market that meets all user needs.



senso|tek®



Smart Entrance Manager - SEM Basic

The protection of people is our highest priority. Due to legal regulations for the respective areas in use, an exact count is required to ensure that the maximum number of people permitted in certain indoor spaces is exceeded. This mandate is fulfilled by the SEM systems from Sensotek.

How is such a task realized in practice?

There are usually several inputs and outputs, and these are often not separated. An accurate count performed by humans is usually not feasible. This is where Sensotek's digital access control comes into play, using time-of-flight technology to count people. The system counts people passing through with directional evaluation and can be configured for simple (one entrance and exit door) or more

complex (multiple entrances and exits) people counting, depending on the requirements.

The input of the sensor's mounting height, which is determined on site, can be entered most easily by the end customer himself via the setup menu on the control unit, without any additional authorization query.

The TOF sensor system has an accuracy of approximately 99% at standard door widths and within the recommended sensor mounting height of 2,200 to 2,500 mm. It is not affected by environmental factors such as temperature and lighting conditions, as is the case with other commercially available people counting sensors.

Features:

- **Evidence of compliance with regulatory requirements can be maintained by storing count data on SD**
- **Plug and play construction kit, installation within the shortest possible time**
- **Can be combined with all common door control systems; when the maximum number of persons is reached, the door is locked to prevent further access from the outside**
- **Easy setting of maximum number of persons, count data archiving and sensor mounting height via the touch panel of the PLC**
- **Different display concepts for visual and, if necessary, acoustic signaling of facility utilization can be implemented; red/green LED strips, optional red/green corona traffic light, red/green information column, voice output with personalized announcement text available**
- **Combination with several inputs/outputs, also possible over several floors**
- **Use of dual sensors for monitoring large passage widths**
- **App with remote control functionality, with existing connection to the SEM network (via WLAN), optionally available**

Technical Data	
Counting accuracy	approx. 99% for standard door widths and compliance with the recommended installation height of 2200 to 2500 mm
Ceiling height	max. 4,500 mm with 3,000 mm sensor installation height
Sensor installation height	2,100 - 3,000 mm (recommended: 2,200 - 2,500 mm)
Passage width	max. 2,850 mm with 3,000 mm installation height and use of a paired double sensor
Min. object height to be counted	900 mm with max. 2 300 mm installation height
Maximum number of sensors combined	almost unlimited; the chosen system architecture allows any extension (currently a design for up to 20 sensors is prepared); the maximum distance between the encapsulated control unit and the sensor is limited to 100 m each (without additional unit for signal amplification)
Configuration layouts for multiple entry/exit doors	Yes
Configurable counter values	Yes, the maximum number of people is adjustable and the counter reading can be manually reset to "zero". Based on the set count value, the customer can see how many persons may still enter the facility.
App application for access with mobile devices	Yes, via a VNC server installed on the evaluation unit (always with one device at a time)
Evaluation unit	Industrial-grade PLC, with integrated 5" colour touch panel
Interaction with sliding doors	Yes, all current automatic doors on the market + third-party doors with radar sensors (relay output) are compatible, the compatibility with radar sensors with BUS connection must be technically checked.

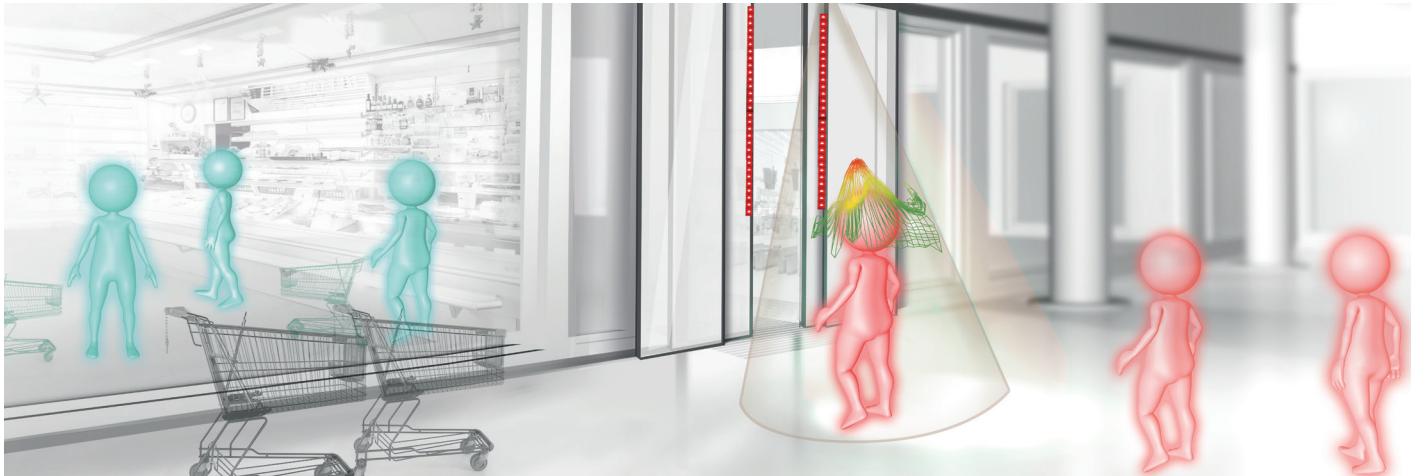
Technical Data	
Power supply (continuous current)	85 - 264 V AC, 50-60 Hz
Data transmission	Junction box RJ45, CAT5 or higher
Used in indoor and outdoor area Indoor electronics	red/green LEDs (IP65) outside, sensor inside (standard) / outside (on request),
Counting technology	Time-of-Flight 3D

SEM - Mounting heights:

The mounting height of the sensor depends on both the passage width of the door and the height of the people to be counted.

Please note: The passage width and the lowest body height still to be evaluated together define the minimum sensor installation height.

min. mounting height sensor	max. passage width with a single sensor	max. passage width with one paired dual sensor	min. object height to be counted
2.100 mm	1.300 mm	2.000 mm	900 mm
2.200 mm	1.400 mm	2.090 mm	900 mm
2.300 mm	1.500 mm	2.190 mm	900 mm
2.400 mm	1.600 mm	2.280 mm	1.000 mm
2.500 mm	1.700 mm	2.380 mm	1.100 mm
2.600 mm	1.800 mm	2.470 mm	1.200 mm
2.700 mm	1.900 mm	2.570 mm	1.300 mm
2.800 mm	2.000 mm	2.660 mm	1.400 mm
2.900 mm	2.100 mm	2.760 mm	1.500 mm
3.000 mm	2.200 mm	2.850 mm	1.600 mm



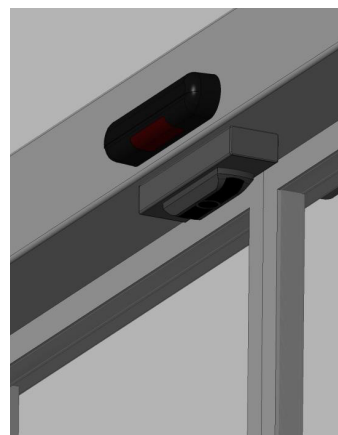
Detection field of the sensor and evaluated height profile, display of setup utilization via red/green LED strip.



Entrance door with SEM



Installation variants A or B for door operator mounting kit



PLC with touch panel

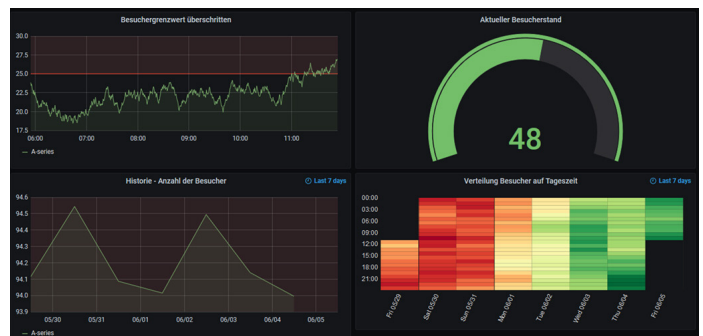
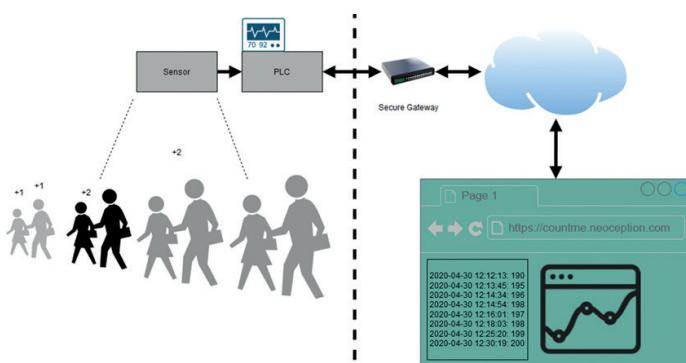
Order options:

Art. No.	article name	Description of the article
10000444	SEM Basic	Autonomous counting system with automatic deactivation of the entrance door (clear passage width up to max. 2,200 mm when using a single sensor) when the maximum number of people is reached.
		1 piece 3D TOF counting sensor with 10 m cable length
		1 piece mounting kit door operator : U-profile + L-bracket, both black powder coated; and mounting hardware.
		1 piece mounting kit ceiling (for ceiling height up to max. 4 500 mm) consisting of: 2 x spindle / threaded rod M5, length 1.5 m; for sensor mounting heights up to 3 m + further accessories (cable ties, etc.)
		1 piece PLC with 5" color touch panel for setting, incl. 7 m cable length - reset counter, set max. number of persons - control counting data storage
		2 pcs. red/green LED strips IP65, 1 m long, for signaling the current occupancy status full/free, incl. 5 m cable length
		1 piece encapsulated control unit, incl. 5 m cable length with Schuko plug
		1 piece of control cable for combination sensor for door lock on the encapsulated control unit, incl. 10 m cable length
10000445	SEM Basic wide door	Autonomous counting system with automatic deactivation of the extra-wide entrance door (clear passage width up to max. 2,850 mm when using a double sensor) when the maximum number of persons is reached.
		2 pcs. 3D TOF counting sensors paired with 10 m cable length each
		2 pcs. mounting kit door operator : 2 x U-profile + 2 x L-bracket, both black powder-coated; as well as mounting material.
		2 pcs. mounting set ceiling (for ceiling height up to max. 4 500 mm) consisting of: 4 x spindle / threaded rod M5, length 1.5 m; for sensor mounting heights up to 3 m + further accessories (cable ties, etc.)
		1 piece PLC with 5" color touch panel for setting, incl. 7 m cable length - reset counter, set max. number of persons - control counting data storage
		2 pcs. red/green LED strips IP65, 1 m long, for signaling the current occupancy status full/free, incl. 5 m cable length
		1 pc. encapsulated control unit, incl. 5 m cable length with Schuko plug
		1 piece of control cable for combination sensor for door locking on the enclosed control unit, incl. 10 m cable length
10000446	SEM Basic second access	1 piece 3D-TOF sensor for an additional entrance/exit door (multiple door system/ clear passage width up to max. 2,200 mm when using a single sensor) incl. 15 m cable length
		1 piece mounting kit door operator : U-profile + L-bracket, both black powder-coated; and mounting hardware.
		1 piece mounting kit ceiling (for ceiling height up to max. 4 500 mm) consisting of: 2 x spindle / threaded rod M5, length 1.5 m; for sensor mounting heights up to 3 m + further accessories (cable ties)
10000447	SEM Basic second access wide door	2 pcs. 3D-TOF sensors for an additional, wide door (clear passage width up to max. 2,850 mm when using a double sensor) incl. 15 m cable length; pairing
		2 pcs. mounting kit door operator: 2 x U-profile + 2 x L-bracket, both black powder-coated; as well as mounting material.
		2 pcs. ceiling mounting kit (for ceiling heights up to max. 4,500 mm) consisting of: 4 x spindle / threaded rod M5, length 1.5 m; for sensor mounting heights up to up to 3 m + further accessories (cable ties, etc.)
10000448	SEM Basic Traffic light Set	1 piece red/green traffic light with integrated M12 threaded studs on the front, incl. 10 m cable length
		Mounting kit for traffic light/concrete

Accessories:

Art. No.	article name	Description of the article
10000461	SEM Basic another set LED strips	2 additional red/green LED strips IP 65, 1 m long, for signaling at another entrance door, incl. 5 m cable length, (please consider possible additional cable requirements, depending on local conditions)
10000449	Extension cable LED strip 100m	1 extension cable with 4 single strands, 100 m cable length for red/green LED strips
10000450	Mounting set LED strip	Mounting kit red/green LED strip concrete / plaster wall
10000451	SEM Basic Information column	Freestanding customer information board incl. red/green lighting device
10000452	Sensor Extension set 15 m"	1 adapter cable + power supply cable with 4-pin connector plug on one side between sensor and electrocapsule housing, cable length 15 m each
10000453	Sensor Extension set 20m	1 adapter cable + power supply cable with 4-pin connector plug on one side between sensor and electrocapsule housing, cable length 20 m each
10000454	Sensor Extension set 50m	1 adapter cable + power supply cable with 4-pin connector plug on one side between sensor and electrocapsule housing, cable length 50 m each
10000455	Sensor Extension set 100m	1 adapter cable + power supply cable with 4-pin connector plug on one side between sensor and electrocapsule housing, cable length 100 m each
10000456	Twin socket adapter Schuko	1 twin Schuko socket adapter for using the existing socket in doors to supply power to the STA-control unit and the encapsulated SEM control unit
10000457	SEM Basic with Voice Module	SEM Basic Kit with additional integrated voice box + loudspeaker and connection cable in housing
10000462	SEM Basic WLAN-AP-Modul	1 piece WLAN router for wireless remote access to the SEM Basic system via a mobile terminal (please take into account that an additional app must be installed for this, which can establish a connection to the VNC server).

Manage your people counting system SEM centrally:



Further possible applications after retrofitting:

- Planning the staffing level depending on the workload in order to reduce customer waiting times
- Climate control and lighting control depending on customer frequency
- Alarm immediately triggered when critical thresholds are exceeded
- Display the frequency of visits to the website home page to increase customer satisfaction

Your expert for:



Door automation



Barriers



Access control



Gate automation



Fire protection



Perimeter protection



Elevators



People counting



Traffic engineering



Escalators



Public transportation

Produktpräsentation



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