

Active infrared scanner

PROSCAN/38a



- Fan-shaped detection field with up to 12 beams
- Closing safety monitoring over the complete door width
- Adjustable detection fields for different door widths
- Automatic drift compensation

Multi-beam sensor with self-programming function for monitoring automatic doors



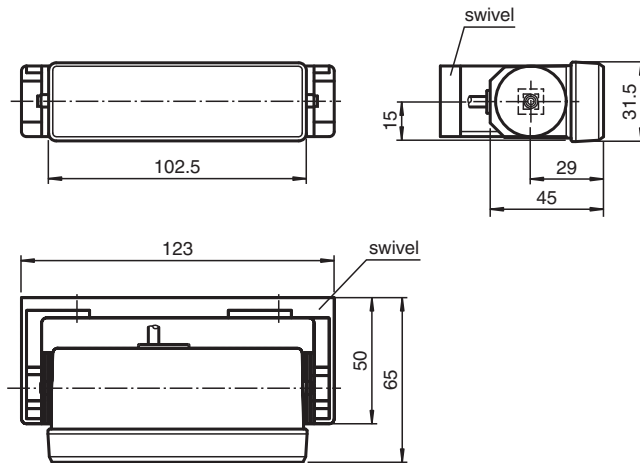
Function

The compact ProScan energetic light scanner operates using an integrated source of infrared light and creates a fan-shaped detection field consisting of a maximum of 12 independent light beams. Since the beam intensifies toward the center of the fan, the area around the closing edges in particular is monitored virtually seamlessly. The sensors are self-programming and automatically adapt to any environment, learn the environment, and even automatically adapt to subsequent changes. Other notable features include the high level of sensitivity, ambient light immunity and compensation of long-term drift. This function guarantees reliable long-term use, even in dirty, rainy or snowy conditions.

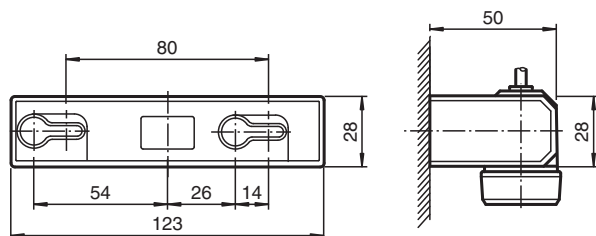
Application

- Closing edge protection on automatic sliding doors, for example, sliding doors in shopping centers, public buildings, and office buildings
- **Version T with e1 approval:** closing edge protection on automatic doors on public transport vehicles, such as buses and trains
- Threshold monitoring on revolving doors

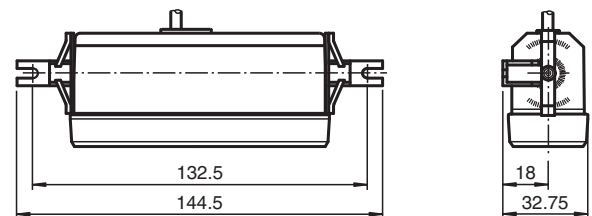
Dimensions



Mounting dimensions for swivel



Mounting dimensions with mounting bracket set AIR30



Technical Data

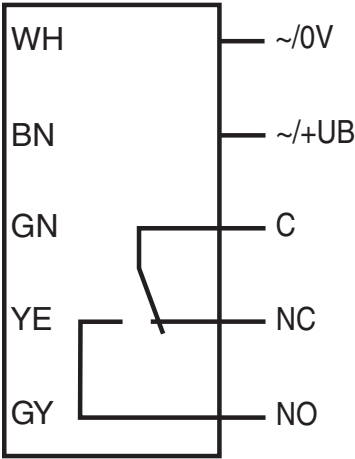
General specifications		
Detection field		total field: 2300 mm x 80 mm left/right field: 1150 mm x 80 mm center field: 1000 mm x 80 mm II (installation height: 2 m)
Light source		12 x IRED
Light type		modulated infrared light
Teach-in time		approx. 4 s
Open time		3 min/10 s, programmable
Accessories provided		Swivel bracket, Mounting bracket
Functional safety related parameters		
MTTF _d		780 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		60 %
Indicators/operating means		
Function indicator		LED red: on for object detection, flashes during teaching phase
Control elements		Programmble switch for switching type, open time, detection field
Electrical specifications		
Operating voltage	U _B	12 ... 36 V DC
Ripple		10 %
No-load supply current	I ₀	100 mA
Power consumption	P ₀	3 VA
Output		
Switching type		Output active / inactive programmable
Signal output		Relay, 1 alternator
Switching voltage		48 V DC

Technical Data

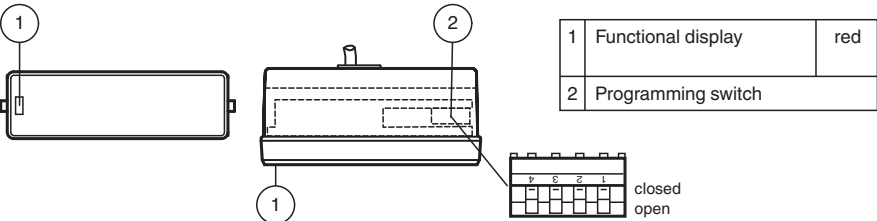
Switching current	1 A at 24 V DC
Response time	< 50 ms
De-energized delay	t _{off} 200 ms
Compliance with standards and directives	
Standard conformity	
Product standard	EN 60947-5-2
Flammability	Flame retardant in accordance with UN/ECE-R118 or ISO 14572
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Mechanical specifications	
Mounting height	1000 ... 2500 mm
Degree of protection	IP52
Connection	5 m fixed cable
Material	
Housing	PC/ABS
Optical face	PMMA
Mass	approx. 100 g
Dimensions	
Height	45 mm
Width	102 mm
Depth	32 mm

Connection Assignment

Option:

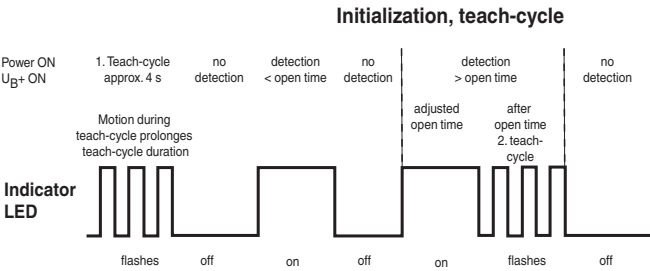


Assembly



Characteristic Curve

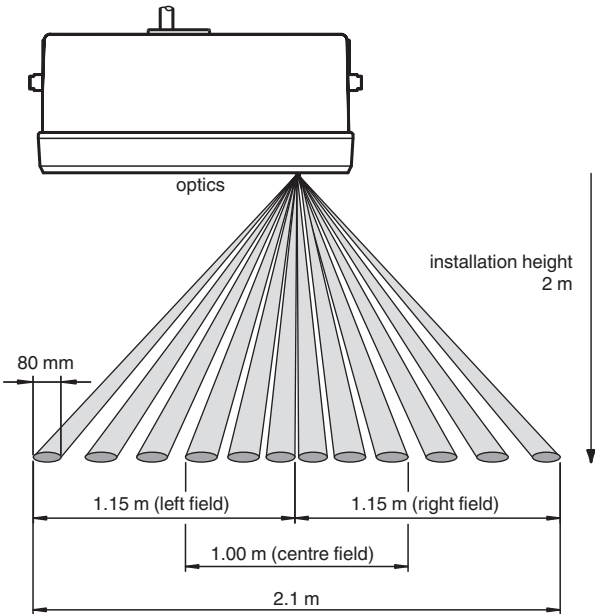
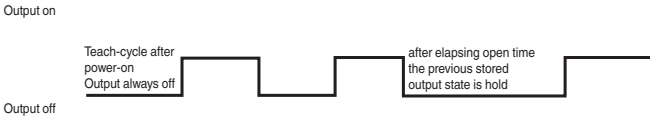
Timing diagram Proscan



Switch 4 ON



Switch 4 OFF



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Application



Function Principle

The ProScan is a 12-beam energetic light scanner based on the principles of active infrared. The beams, which are switched independently, enable the sensor to fan out across an extremely wide and narrow detection field in the area of the door. The clearly defined, fan-shaped detection field on the ProScan can be set manually in four areas: half fan to the right, half fan to the left, central fan and full detection field.

Immediately after being switched on for the first time, the ProScan programs the reflected pattern of the detected background as the reference signal. During this process, the ProScan automatically adapts to the relevant installation and assembly environment. Since each of the individual light beams on the ProScan independently programs its specific reception level, there is no need to manually configure complex sensitivity settings. Once the programming phase is complete, the light reflected from each of the 12 light beams is evaluated. Each time there is a difference between the reflected value of an individual light beam and the reference signal, a switching process is initiated.

Programming

The programming switch can be accessed by carefully removing the cover with the lens assembly from the housing. A small slot-head screwdriver can be used to carefully lift off the cover by the slots located on the sides of the cover.

Each switch is on when the switch position is down (ON); if the switch position is up, then the switch is switched off (OFF).

Programming options

Switch	Output active during detection	Output inactive during detection	Open Time 10 s	Open Time PROSCAN 3 min PROSCAN-T 3 s
4	ON	OFF		
3			ON	OFF

Detection field at installation height 2000 mm

Switch	2300 mm x 80 mm Full field	1150 mm x 80 mm Left field	1150 mm x 80 mm Right field	1000 mm x 80 mm Center field
2	OFF	OFF	ON	ON
1	OFF	ON	OFF	ON

Technical Features

"Open Time" Function

The ProScan is a self-programming device, and automatically adjusts to changes in its environment. If the ProScan detects a stationary object that does not correspond to the programmed reference signal (for example, a suitcase), ProScan interprets this as a permanent change in the environment and initiates a new self teach-in process after a preset time (referred to as "Open Time") has elapsed. Open Time can be adjusted to meet customer application requirements.

"Suitcase" Function

After a background has been changed, the ProScan "Suitcase" function allows the reference to be adjusted back to the original background. Once a self-taught object, such as a suitcase, is removed from the detection field again, ProScan returns to the original reference. A new learning process is not required.

Compensating for long-term drifts

The ProScan is able to compensate for long-term drifts. Using this function, changes to the ground reflectance (for example, caused by rain or snow), as well as temperature fluctuations and dirt on the optical surface or ground are automatically compensated for.

Test input (optional)

Using the integrated test input, the overall function of the ProScan can be reliably checked by testing all 12 light beams simultaneously.