Active infrared scanner
PROSCAN-2597/38a/76a

- 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
- Version with test input
- Version with increased sensitivity in midfield
- Version with a single automatic teach

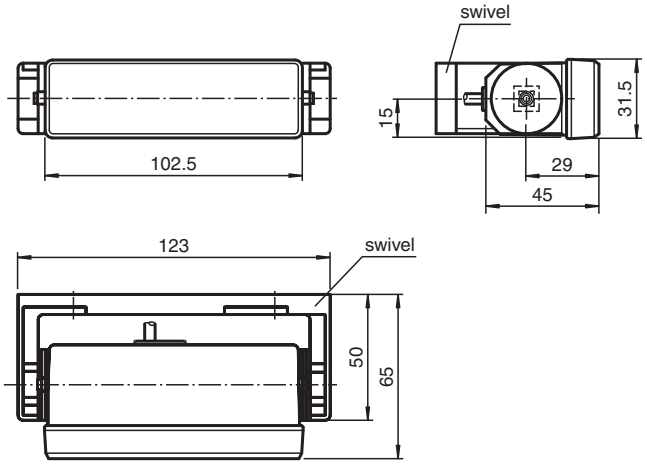
Multi-beam sensor with self-programming function for monitoring automatic doors

CE

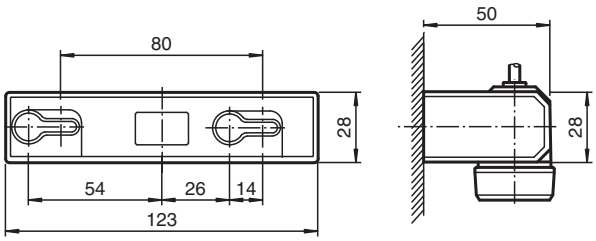
Function

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.

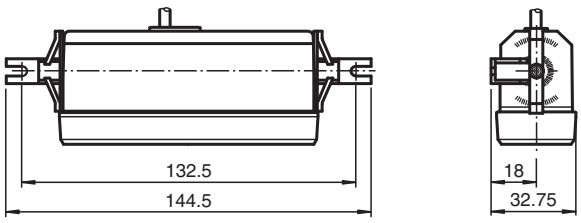
Dimensions



Mounting dimensions for swivel



Mounting dimensions with mounting bracket set AIR30



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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 || (installation height: 2 m)
Light source		12 x IRED
Light type		modulated infrared light
Teach-in time		approx. 4 s
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 and detection field
Electrical specifications		
Operating voltage	U_B	12 ... 38 V DC
Ripple		10 %
No-load supply current	I_0	100 mA
Power consumption	P_0	3 VA
Input		
Test input		emitter deactivation with +Ub
Output		
Switching type		Output active / inactive programmable
Signal output		relay, 1 NO
Switching voltage		48 V DC
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		ABS
Optical face		PMMA
Mass		approx. 100 g

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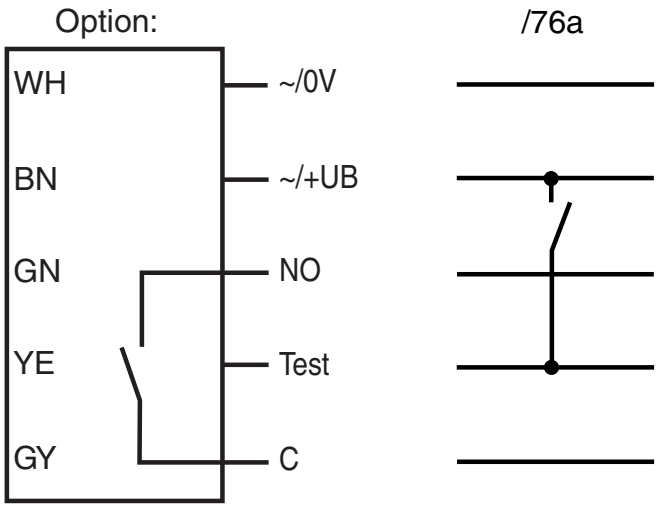
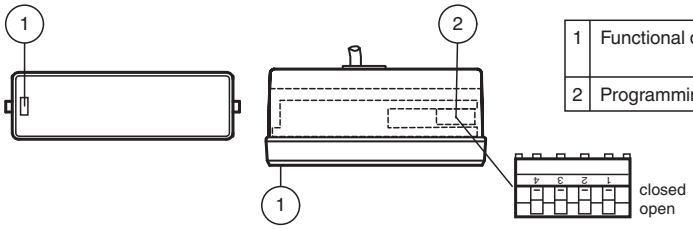
Connection Assignment



Note:

Test input can not be used, if sensor is supplied with AC voltage!

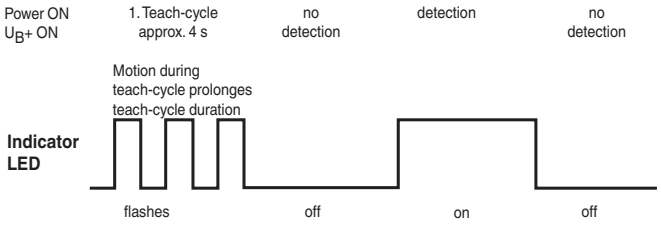
Assembly



1	Functional display	red
2	Programming switch	

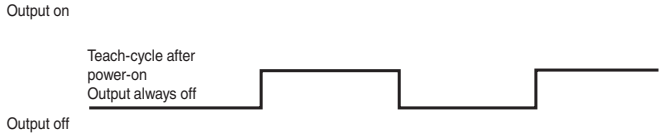
Characteristic Curve

Timing diagram Proscan



Switch 4 ON

Switch 4 OFF



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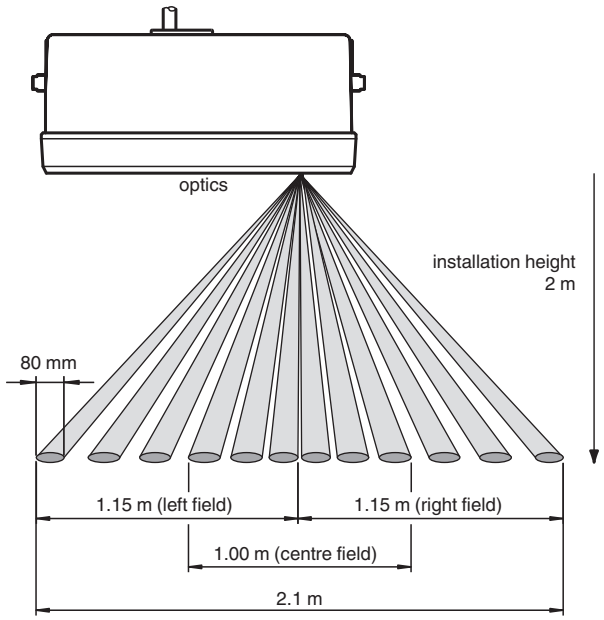

Application

Accessories

	UP-Einbaurahmen	Mounting frame for sensors in the AIR30 and PROSCAN series

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Programming options

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).

The table below shows the various programming options.

Switch	Output active during detection		Output inactive during detection	
4	ON		OFF	
3	-	-	-	-

Detecting field at installation height of 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

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, center fan and full detection field.
Immediately after being switched on for the first time, the ProScan programs the light pattern of the detected background as the reference signal. During this process, the ProScan automatically adapts to the application environment. As each of the individual light beams on the ProScan stores its specific received light level automatically, there is there is no need to configure complex manual 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.

Compensating for Long-Term Drifts

The ProScan is able to compensate for long-term drifts. Using this function, changes to the ground reflectance, caused by rain or snow for example, 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.

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

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