

SCAPE Pro Industrial 3D Scanner™

Product Option OP18-13/14



Introduction

The SCAPE Pro Industrial 3D Scanner comes in two different sizes and is mounted above the scene. It is a binocular scanner which is optimal for bin-picking tasks and certain other tasks where different view-angles are beneficial. The advantages of a stationary scanner compared to a robot mounted scanner are faster cycle times since the robot is not involved in acquiring data. In some cases, the scanner can handle two bins next to each other.

How it works: The scanner projects several patterns onto the scene and records them by means of two cameras. As a result, the object is digitalized as a 3D point cloud. Neither the object nor the 3D sensor is in motion, which means that scanning is conducted quickly and extremely precise.

Technical Performance Specifications

The SCAPE Pro Industrial 3D Scanner comes in 2 different sizes corresponding to different scan volumes and resolutions. All models generate up to 2.0 M points and use blue laser light (447 nm).

Model	Pro C-L (OP18-13)	Pro C-XL (OP18-14)
Working Range (Z-direction)	1326-2800 mm	1100-3500 mm
Extended Range ¹	2800-4000 mm	3500-4900 mm
Field of View (see plots on page 2) ²	2100 x 1800 mm	3200 x 3100 mm
Lateral Resolution (XY-plane) ²	1.369 mm	2.155 mm
Min Surface Area for Scanning ²	4.8 x 4.8 mm	7.5 x 7.5 mm
Depth Uncertainty RMS Closest to/Furthest from Scanner	1.3/2.8 mm	1.1/3.5 mm
Baseline	400 mm	400 mm

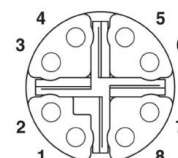
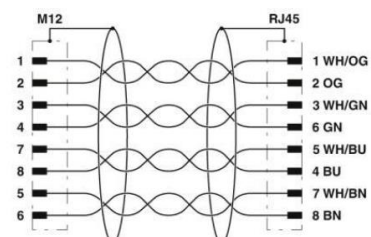
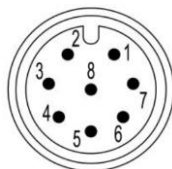
Electrical Connections

Power + GPIO port Use 24 VDC to power the scanner.
Use only the supplied power adapter.

Ethernet port

Connect 1 Gbps ethernet cable with RJ45/M12-X connector (supplied with scanner). If supplying own cables: Use category Cat5e or better ethernet cables (cables capable of 1 Gbps or 10 Gbps transfer rate). Powering the device through PoE is not possible.

No.	Signal definition	Function description	Color	Electric parameter	Unit
1	Trigger_OUT	Trigger signal output	white	Trigger Power	V
2	Sys_VCC	System VCC	brown	12 ~ 30	V
3	Sys_GND	System GND	green	0	V
4	Trigger_Power	Trigger signal power	yellow	12 ~ 24	V
5	Trigger_GND1	Trigger circuit GND1	grey	0	V
6	Trigger_IN1	Trigger circuit Input1	pink	Trigger_Power	V
7	Trigger_GND2	Trigger circuit GND2	blue	0	V
8	Trigger_IN2	Trigger circuit Input2 (reserved)	red	Trigger_Power	V



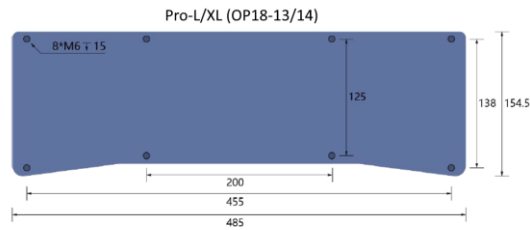
¹ Extended range: Good point clouds can still be acquired in this working range, but the accuracy decreases compared to the normal "Working range"

² At max. distance

Indicator Status

Status	Red	Green	Yellow
Power off	Off	Off	off
Starting	On	Off	Off
Startup complete, faulted	Flash	Off	Off
Startup complete, disconnected	Off	On	Off
Startup complete, connection successful/ no data transfer	Off	On	On
Connection successful & Data transmitted	Off	On	Flash

Mounting (all models):



Physical Specifications

Dimensions and Weight

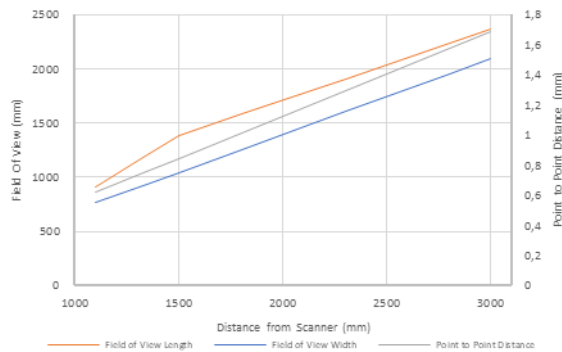
Pro C-L : 480 x 148 x 65 mm 3700 g
Pro C-XL: 480 x 148 x 68 mm 3740 g

Safety Classification (EN 62471) and Protection

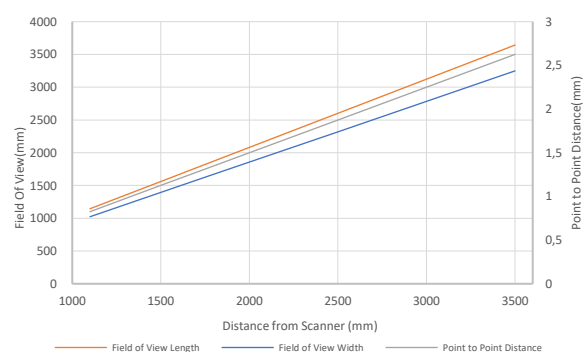
Class 3R. Class 3R lasers are considered safe when handled carefully. Avoid direct eye exposure. IP65.

Field of View and sensor resolution as a function of scanning distance

Pro C-L



Pro C-XL



SCAPE Pro Industrial 3D Scanner™ Box Content

- SCAPE Pro C- L/XL Industrial 3D Scanner
- Power Supply (100-240 VAC/50-60 Hz, 1.3 A, Output: 24VDC, 90 W) incl. 1.8 m cable to wall outlet and 20 m between power supply and scanner
- Ethernet cable RJ45/M12 X-coded 20 m (between SCAPE Controller PC or SCAPE Vision Controller and scanner)
- Shutters to prevent projected light outside bin(s) or scene

SCAPE Controller PC Extra Requirements

1 Ethernet connector, 1 Gbit

Optional SCAPE Stationary Scanner Tower

The SCAPE Stationary Scanner Tower is an option for mounting the SCAPE Stationary Scanner above the scene. Please contact Scape for more information.



Position of Scanner relative to the scene

Scape provides a CAD model including scan volume for each scanner model. This makes it easy to position the scanner in the correct position during the layout phase. As an example, the CAD model for Pro-L (OP18-13) is shown below.

