



picoScan100

2D LiDAR sensor – high-performance and cost-effective in compact housing

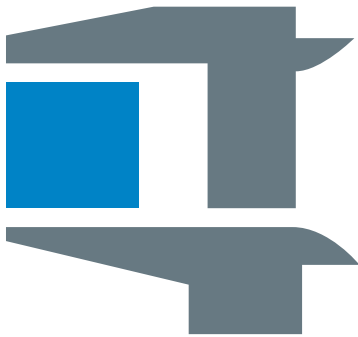
SICK
Sensor Intelligence.

Advantages



Compact. Powerful. Cost-effective.

The picoScan100 2D LiDAR sensors from SICK combine a high performance and future proof hardware with numerous practical software functions in a compact and rugged housing. And best of all: A tailored solution for almost any application can be assembled using the product configurator. That's what we call cost-effectiveness.



compact

Thanks to its compact housing, the picoScan100 is easy to integrate into many applications even when space is at a premium. In the case of autonomous mobile robots, the small footprint of the sensor enables a good balance to be achieved between the space used by the sensors and other key components, for example, the battery.



Powerful

The high performance hardware of the picoScan100 scans a large area of the environment and ensures a continuously high measurement data quality. Its high computing power also allows the measurement data to be filtered and pre-processed on the sensor.



Cost-effective

A tailored solution for almost any application can be assembled using the product configurator. It also offers numerous smart software functions that allow an efficient design-in and a long service life. The result: High cost-effectiveness in a total cost of ownership (TCO) analysis.



High performance with a small footprint at an affordable price

The picoScan100 – fit for a wide range of applications

The picoScan100 is suitable for many different applications and requirements. This is why the picoScan100 also comes with numerous intelligent features and was thoroughly tested during its development.



The picoScan100 and its features in use



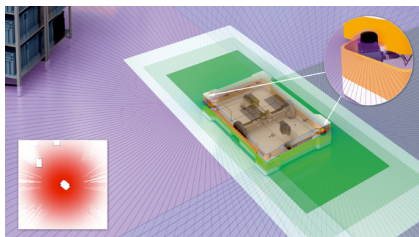
Exceptional quality – tested in the laboratory and in extreme ambient conditions



Reliable solutions for a wide range of applications.

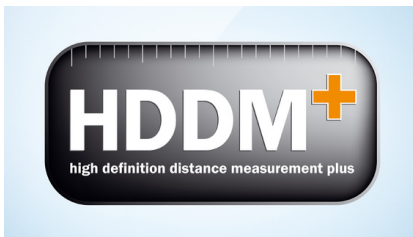
Everything that a good 2D LiDAR sensor requires

The picoScan100 covers a large working range. The working range is defined by a wide field of view and high scanning ranges. It is also important to be able to reliably detect small and dark objects.



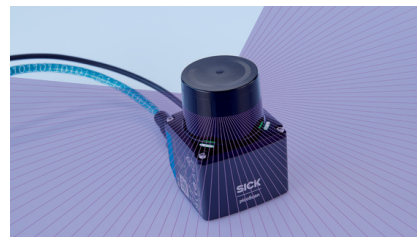
Wide field of view of 276° (270° + 6°)

The wide field of view of the picoScan100 allows a large working range. With two diagonally aligned sensors, it is even possible to cover 360° – and do so with little mounting and alignment effort.



Gap-free environment perception with HDDM+

The HDDM+ multi-pulse measurement method ensures gap-free scanning and immunity to interference. The large number of laser pulses per measurement point results in an overlap of the laser points. This enables the picoScan100 to seamlessly acquire the entire scan area and detect even small objects and structures. Through a statistical evaluation of multiple pulses, any interference by other sensors or laser sources can be suppressed. This is particularly advantageous when using many mobile platforms equipped with sensors in the same environment, e.g. in an automated warehouse.



Improved detection options

The large working range (75 m at 90% remission) and the high angular resolution (up to 0.05°) of the picoScan100 enables small objects or fine structures to be detected even at large distances. This makes the sensor suitable for accurate localization or reliable collision avoidance.



Increased productivity thanks to reliable environment perception



Core, Prime, Pro and lots more – configurable for your requirements

With the picoScan120 and the picoScan150, two variants of the 2D LiDAR sensors are available. While the picoScan120 offers defined SensorApps and software functions, the picoScan150 is also available in the three basic versions Core, Prime or Pro. These differ in regard to their maximum scanning range, angular resolution, and scan rate. After selecting the basic version, further sensor apps and numerous software functions can be added in the product configurator. Features such as multi-echo or the orientation of the system plug can be configured in this way.



	picoScan120	picoScan150 Core	picoScan150 Prime	picoScan150 Pro
Working range max.:	0.05 ... 30 m	0.05 ... 25 m	0.05 ... 60 m	0.05 ... 120 m
Working range @ 90%:	30 m	25 m	51 m	75 m
Working range @ 10%:	18 m	12 m	25 m	40 m
Angular resolution:	0.10°	0.25° @25 Hz 0.33° @15 Hz 1.00° @15 Hz	0.05 ... 1.00° *	0.05 ... 1.00°
Scan frequency:	20 Hz		15 ... 50 Hz *	15 ... 50 Hz
SensorApps:	Measurement data	Configurable	Configurable	Included
Digital add-ons:	Fixed	Configurable	Configurable	Included

* if „Dynamic Sensing Profiles Package“ is included

picoScan120

The compact picoScan120 enables reliable and precise navigation of autonomous mobile robots in indoor areas thanks to high-quality measurement data and predefined software functions. The integrated cables also reduce the mounting space required.

picoScan150 Core

With the picoScan150 Core, you receive a high performance sensor with a working range of up to 25 m that covers a wide range of applications. Additional SensorApps and software functions can optionally be ordered.

picoScan150 Prime

With a working range of up to 60 m, this version is ideal for demanding applications such as localizing autonomous mobile robots or mapping large spaces. Thanks to numerous optional SensorApps and software functions, you can precisely tailor the picoScan150 Prime to your requirements.

picoScan150 Pro

This type offers a scanning range of up to 120 m and full access to the available SensorApps and all software functions. With the picoScan150 Pro, you receive the ideal combination of powerful measurement performance and a high level of flexibility.



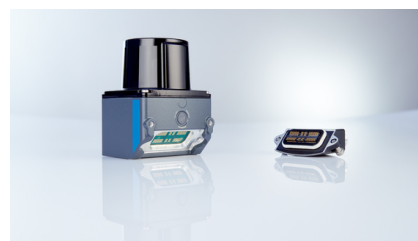
Modular software assembly

The sensor that fits your application: Choose between different software features such as filter functions, multi-echo function or reflector detection.



Advance parameterization included

Save valuable time during commissioning. You can already store predefined settings or parameters sets at the time of ordering. SICK loads them onto the device before delivery.



Flexible connection design

The picoScan100 sensors are available with either a modular system plug (picoScan150) or integrated cables (picoScan120). The flexible connection concept supports different interfaces for a variety of applications.



Select a suitable version of the picoScan150 and configure your individual solution.



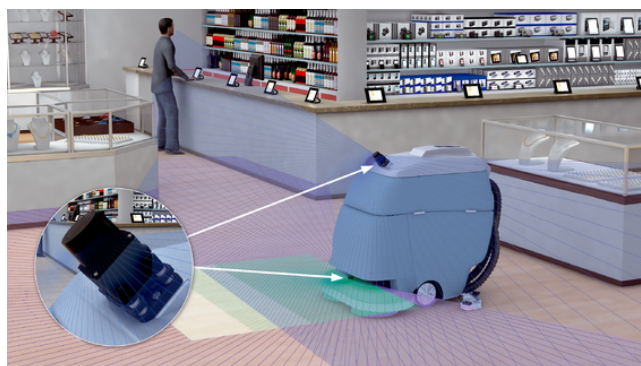
Diverse applications. One solution. picoScan100.

The picoScan100 2D LiDAR sensor offers tailor-made solutions for a wide range of applications. Whether used for the navigation of small autonomous mobile robots (AMRs), as a driver assistance system in industrial trucks, or in stationary applications, the picoScan100 can be easily integrated into almost any application – even in outdoor areas – thanks to its compact size.



Autonomous mobile robots (AMRs)

AMRs use the measurement data of the picoScan100 to create a precise map of their environment. The current position and route of the AMR can be determined based on landmarks inside this map.



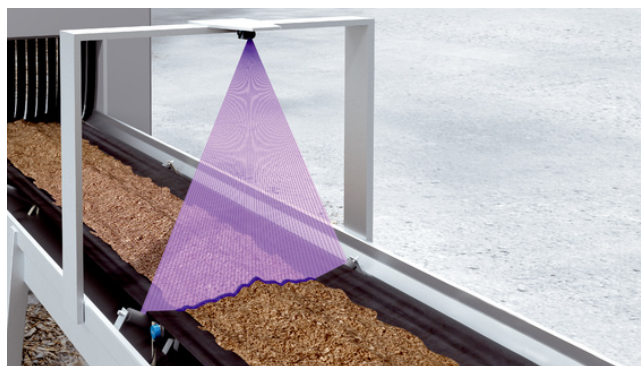
Service robots

Service robots often move about in a dynamic environment. With the help of the integrated field evaluation, the picoScan100 reliably detects objects in its path and can drive around them.



Industrial trucks

The picoScan100 can be used to monitor the area behind industrial trucks. If an object is located on the route, the sensor sends an appropriate warning signal. The driver can then stop the vehicle in time or avoid obstacles.



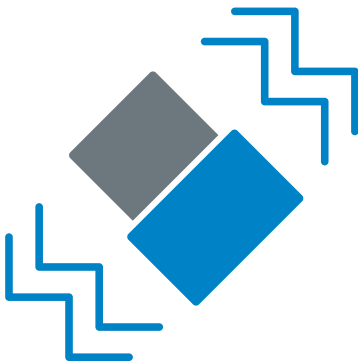
Stationary applications

The picoScan100 is also ideal for a wide variety of stationary applications. Its precise measurement data can, for example, be used to capture profile lines from which a volume flow can be calculated.



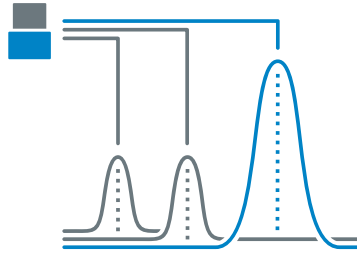
Ideal for outdoor use

Even in rain, fog, dust, strong sunlight or cold: Thanks to its rugged design and intelligent software functions, the picoScan100 reliably perceives its environment even in outdoor areas. It ensures a high data availability even when subjected to external shocks or vibrations.



Rugged design

The sensors are impervious to shocks, vibrations, and ambient light. Thanks to the built-in ventilation element, they will also not be harmed by rapid temperature changes.



Multi-echo technology

The multi-echo technology enables multiple echo signals per emitted measurement beam to be evaluated. Echoes caused by rain or fog, for example, can thereby be identified and, if necessary, blanked out.



Contamination detection

The integrated contamination detection monitors the condition of the optics cover. The sensor can then be cleaned before a failure occurs. This makes it possible to implement condition-based maintenance.



Outstanding availability even under demanding ambient conditions

More than just measurement data

When acquiring measurement data, the measurement core can be flexibly parameterized to suit the application via Dynamic Sensing Profiles. The accurate measurement data feature a precise time stamp and also provide additional information such as RSSI (Received Signal Strength Indicator) values or information about reflectors.



picoScan100

Adaptation to changing tasks:
Dynamic Sensing Profiles

Dynamic Sensing Profiles

Adaptation of the measurement core parameters during operation and without rebooting for dynamic adjustment to the specific requirements in subtasks of the LiDAR sensor.

“One size fits all” sensor using AMRs as an example: From very accurate close range measuring tasks for fine positioning, e.g. docking at a charging station, right through to environment perception in navigation tasks with a large working range and fast response times for collision avoidance.



picoScan100

High distance repeatability

High measurement data accuracy

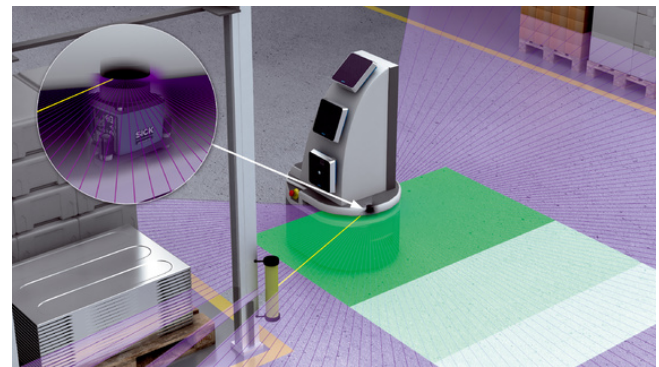
With a low statistical error of typ. ≤ 2 mm (0.05 m ... 5 m) and a low angular error (typ. $\leq 0.005^\circ$), the picoScan150 delivers accurate data. Thanks to the precise scan field flatness of $\pm 1^\circ$, the picoScan150 delivers very accurate data even in the vertical direction. The high measurement data quality thereby obtained means less compensation is required in localization algorithms, and precise positioning can be achieved for mobile platforms.



Fast data output and time synchronization

Functions such as NTP (Network Time Protocol) or PTP (Precision Time Protocol) synchronize the device time with that of other devices and thereby ensure a precise time stamp that is immediately assigned to the measured value during the measurement.

The high scanning frequency of up to 50 Hz and the segmented data output optimizes latencies, which facilitates a high data quality and reduces temporal inaccuracy-related effects in dynamic applications.



Reflector detection

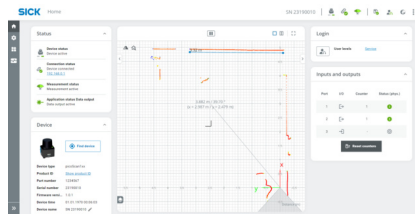
When the picoScan150 detects a reflector, this information is attached to the measured value and is available in the graphical user interface and in the data telegram. This makes it easier to differentiate between natural targets and reflectors.



Precise measurement data for easier further processing

Wide variety of software solutions – quickly and easily integrated

Besides the sensor characteristics, parameterization and efficient further processing of data are essential. SICK provides a wide portfolio of integrated applications, additional software functions and digital accessories for this purpose. The picoScan150-LOC variants, for example, offer integrated localization solutions with no additional hardware.



LiDAR-LOC

LiDAR-LOC achieves accurate and reliable localization results based on natural contours – no adaptation to the surroundings is required. When combined with CODE-LOC, the localization accuracy is increased even further. Furthermore, the Virtual Line Navigation feature enables all types of mobile robots to navigate using virtual lines.

> Find out more

SOPASair web server

SOPASair offers a modern, browser-based user interface for simple parameterization, configuration and diagnostics of many SICK sensors – completely without installation and independent of the operating system. The clear, intuitive operation enables fast and efficient work directly in the web browser.

The SICK Virtual Sensor Lab enables the interactive presentation and testing of the functional scope of virtual sensors. The simulated functions are based on the behavior of real devices, but may differ in scope and level of detail depending on the respective product variant and the activated license scopes.

Quick and easy integration of the LiDAR sensor

- Choice of drivers: ROS1, ROS2, C++ and Python
- Data formats: Compact and MSGPACK
- Parameterization options: SOPASair web server with user interface, SOPAS telegram, or REST API

In addition, a native ROS2 connection using DDS (Data Distribution Service) on the device side enables a plug and play approach in a ROS2 architecture.

> Protocols & Integration Guide

Code examples are available on GitHub, so not all code needs to be created from scratch.

> To the picoScan100 data recordings in Rosbag format



Reliable localization, time-saving integration and intuitive operation

Find out more about operating the picoScan100

Get to know the picoScan100 with the tutorial video series and find out what the picoScan100 can do for you. [Link to the playlist](#)





Technical data overview

Application	Indoor / Indoor / Outdoor (depends on variant)
Measurement principle	HDDM ⁺
Integrated application	Output of measurement data, 2D Object Detection, 2D Object Detection Advanced, LiDAR-LOC 2, Virtual Line Navigation, CODE-LOC (depends on variant)
Aperture angle	Horizontal 276°
Working range	0.05 m ... 120 m (depends on variant)
Scanning range	At 90% remission factor and 10 klx 25 m ... 75 m (depends on variant) At 10% remission factor and 10 klx 12 m ... 40 m (depends on variant)
Amount of evaluated echoes	1 / 3 (depends on variant)
Scanning frequency	20 Hz, 15 Hz, 25 Hz, Depends on the Dynamic Sensing Profile, 30 Hz, 40 Hz, 50 Hz (depends on variant)
Ambient operating temperature	-33 °C ... +50 °C (depends on variant)
Ethernet	✓
Weight	220 g / 250 g / 220 g (depends on variant)

Product description

With a large scanning range, fine angular resolution and high sensitivity, the 2D picoScan100 LiDAR sensors are setting new standards as the successor to the TiM. They also reliably detect small and dark objects. The sensors deliver exact measurement data and feature integrated further processing of data that is transmitted through various communication interfaces. The compact picoScan100 sensors equipped with multi-echo technology have a rugged housing and ensure reliable measurement results even under harsh ambient conditions. They solve demanding industrial applications in indoor and outdoor areas. The picoScan120 and picoScan150 variants (Core, Prime, Pro) come with different features to suit individual requirements.

At a glance

- Compact, rugged housing
- Scanning range: 75 m (90% remission); angular resolution: 0.5° to 0.05°
- Dynamic Sensing Profiles
- High measurement accuracy – measurement noise, scan field flatness and angular accuracy
- Scan rate: 15 Hz to 50 Hz
- Multi-echo technology
- Drivers: ROS, C++ and Python
- Integrated applications like contour localization on the picoScan150-LOC

Your benefits

- Space-saving sensor integration
- Precise detection of small and dark objects, even over large distances
- Can be adjusted flexibly to different application requirements
- High measurement availability, even under harsh outdoor ambient conditions
- High availability of the measurement data for efficient, reliable localization and navigation of mobile robots such as AGVs and AMRs
- Flexible connection technology and data integration
- High cost efficiency: Low acquisition and operating costs
- Flexible mounting and fast device exchange

Fields of application

- Simultaneous localization and mapping (SLAM) and collision avoidance for AMRs
- Driver assistance systems for industrial trucks
- Object measurement and detection
- Monitoring of areas and objects in the field of building automation
- Automation applications, even in outdoor areas

Ordering information

Other models and accessories → www.sick.com/picoScan100

- **Working range:** 0.05 m ... 30 m
- **Angular resolution:** 0.1°

Scanning frequency	Integrated application	Connection type	Variant	Type	Part no.
20 Hz	Output of measurement data	1 "Ethernet" connection, 4-pin M12 female connector (0.25 m), D-coded 1 "POWER" connection, 5-pin M12 male connector (0.35 m), A-coded	Standard (not pre-configured)	PICS120-AX1100	1141751

- **Working range:** 0.05 m ... 25 m
- **Scanning range:** 25 m at 90% remission factor, 12 m at 10% remission factor
- **Angular resolution:** 0.25°, 0.33°, 1°
- **Scanning frequency:** 15 Hz, 25 Hz

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.	
2D Object Detection	–	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core	1155307	
					PICS150-01000 Core 6 I/O w/o add-ons	1142269	
		See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1155441		
		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1144523		
	Data Reduction & Data Preparation package	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 12-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1151292	
	See system plug 2116047		Standard (not pre-configured)	PICS150-01000 Core	1151291		
	See system plug 2116047		Standard (not pre-configured)	PICS150-01000 Core	1152502		
	See system plug 2116047		Standard (not pre-configured)	PICS150-01000 Core	1150208		
	Data Reduction & Data Preparation package, PTP	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1158306	
	Reliability package		See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core	1143392	
	Reliability package, IMU (Inertial Measurement Unit)		See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1151314	
	Reliability package, Multi-echo technology		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1149547	
		Reliability package, Multi-echo technology	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 12-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1146442
	Reliability package, Multi-echo technology	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1146442	

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Subject to change without notice

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.
	package, Reliability package					
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1155531
	Multi-echo technology		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1155532
	Reflector detection		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1155533
	Reliability package		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1152546
	Reliability package, Multi-echo technology		See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1151548
		1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 12-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1150207
						1157791
	Reliability package, Multi-echo technology, LMD-scandata (data format), IMU (Inertial Measurement Unit)	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1158755

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Output of measurement data	–		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core w/o add-ons	1134607
		1 “Ethernet” connection, cable, with RJ45 plug (0.6 m) 1 “POWER/IO” connection, 5-wire, flying leads (0.8 m)	See system plug 2146513	Standard (not pre-configured)	PICS150-01000 Core	1158975
	Data Reduction & Data Preparation package, LMD-scandata (data format)	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2116047	Preconfigured	PICS150-01000 Core R5	1141151
	LMDscandata (data format)		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1152839
	Reliability package, LMD-scandata (data format), IMU (Inertial Measurement Unit), PTP, Native ROS2		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1155983
	Reliability package, Multi-echo technology, LMD-scandata (data format)		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1142395
	Reliability package, Multi-echo technology, LMD-scandata (data format), IMU (Inertial Measurement Unit), Native ROS2		See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1149871

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Output of measurement data, 2D Object Detection	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core-2 6 I/O	1142270
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core-1	1134608
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Preconfigured	PICS150-01000 Core	1145254
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP, Native ROS2	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1146443
	LMDscandata (data format)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1149714
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1148593
	LMDscandata (data format), Native ROS2	1 "Ethernet" connection, 4-pin M12 female connector, D-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core	1155814
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1155815

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.
		1 "POWER" connection, 12-pin M12 plug, A-coded				
	Reliability package	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1153381
	Reliability package, Multi-echo technology, LMDscandata (data format)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core	1144304
						1144804
	Reliability package, Multi-echo technology, Native ROS2	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1153860
			See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1146536
Output of measurement data, 2D Object Detection, 2D Object Detection Advanced	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130871	Standard (not pre-configured)	PICS150-01000 Core	1155615
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1151542
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1151941

Integrated application	Digital add-ons	Connection type	System plug	Variant	Type	Part no.
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP, Native ROS2	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Core	1156209
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Core	1150344

- **Working range:** 0.05 m ... 120 m
- **Scanning range:** 25 m at 90% remission factor, 12 m at 10% remission factor
- **Angular resolution:** 0.25°, 0.33°, 1°
- **Scanning frequency:** 15 Hz, 25 Hz
- **Integrated application:** output of measurement data

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Reliability package, Multi-echo technology, LMDscandata (data format)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Preconfigured	PICS150-01000 Core	1153389

- **Working range:** 0.05 m ... 60 m
- **Scanning range:** 47 m at 90% remission factor, 25 m at 10% remission factor
- **Angular resolution:** 0.05°, 0.1°, 0.125°, 0.25°, 0.33°, 0.5°, 1°
- **Scanning frequency:** 15 Hz, 20 Hz, 25 Hz, 30 Hz, 40 Hz, 50 Hz
- **Variant:** standard (not pre-configured)

Integrated application	Digital add-ons	Connection type	System plug	Type	Part no.
2D Object Detection	Data Reduction & Data Preparation package	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime	1143884
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reflector detection, PTP		See system plug 2116047	PICS150-01000 Prime	1155210
	Dynamic Sensing Profile package, Multi-echo technology		See system plug 2116047	PICS150-01000 Prime	1152300
	Reliability package		See system plug 2116047	PICS150-01000 Prime	1149332
	Reliability package, IMU (Inertial Measurement Unit)		See system plug 2116047	PICS150-01000 Prime	1145106
	Reliability package, LMDscandata (data format)		See system plug 2116047	PICS150-01000 Prime	1146143
	Reliability package, Multi-echo technology		See system plug 2130754	PICS150-01000 Prime	1143393
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime	1145496

Integrated application	Digital add-ons	Connection type	System plug	Type	Part no.
2D Object Detection, 2D Object Detection Advanced	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 12-pin M12 plug, A-coded	See system plug 2130754	PICS150-01000 Prime	1158305
	Reliability package, Multi-echo technology	1 “Ethernet” connection, 4-pin M12 female connector, D-coded 1 “POWER” connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime	1155091
Output of measurement data	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, IMU (Inertial Measurement Unit)		See system plug 2116047	PICS150-01000 Prime	1152838
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), IMU (Inertial Measurement Unit)		See system plug 2116047	PICS150-01000 Prime	1143663
	Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection, Native ROS2		See system plug 2116047	PICS150-01000 Prime	1143877
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, LMDscandata (data format)		See system plug 2116047	PICS150-01000 Prime	1156993
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Encoders		See system plug 2116047	PICS150-01000 Prime	1158655
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), PTP		See system plug 2116047	PICS150-01000 Prime	1142590
	Dynamic Sensing Profile package, Reflector detection, Native ROS2		See system plug 2116047	PICS150-01000 Prime	1149120
	Reliability package, IMU (Inertial Measurement Unit)		See system plug 2116047	PICS150-01000 Prime	1156476
	Reliability package		See system	PICS150-01000 Prime	1155985

Integrated application	Digital add-ons	Connection type	System plug	Type	Part no.
	ta (data format), IMU (Inertial Measurement Unit), PTP, Native ROS2				
Output of measurement data, 2D Object Detection	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), PTP		See system plug 2116047	PICS150-01000 Prime C01	1159632
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	PICS150-01000 Prime-2 6 I/O	1142272
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime-1	1134609
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection		See system plug 2116047	PICS150-01000 Prime	1142685
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection, IMU (Inertial Measurement Unit), PTP	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	PICS150-01000 Prime	1144544
		1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime	1143744
	LMDscandata (data format)		See system plug 2116047	PICS150-01000 Prime	1149224
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Multi-echo technology, PTP		See system plug 2116047	PICS150-01000 Prime	1157640
Output of measurement data, 2D Object Detection, 2D Object Detection Advanced	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Multi-echo technology, Reflector detection, IMU (Inertial Measurement Unit)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	PICS150-01000 Prime	1152869

Integrated application	Digital add-ons	Connection type	System plug	Type	Part no.
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format)	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	PICS150-01000 Prime	1157153
	Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection, IMU (Inertial Measurement Unit), PTP, Native ROS2	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	PICS150-01000 Prime	1155614
	Dynamic Sensing Profile package, Reliability package, Multi-echo technology		See system plug 2130754	PICS150-01000 Prime	1152301

- **Working range:** 0.05 m ... 120 m
- **Scanning range:** 75 m at 90% remission factor, 40 m at 10% remission factor
- **Angular resolution:** 0.05°, 0.1°, 0.125°, 0.25°, 0.33°, 0.5°, 1°
- **Scanning frequency:** 15 Hz, 20 Hz, 25 Hz, 30 Hz, 40 Hz, 50 Hz
- **Integrated application:** output of measurement data, 2D Object Detection, 2D Object Detection Advanced

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, LMDscandata (data format), Reflector detection, IMU (Inertial Measurement Unit), PTP, Native ROS2, Encoders	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Preconfigured	PICS150-01000 Pro	1145819
			Standard (not pre-configured)	PICS150-01000 Pro-2 6 I/O	1142273
	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 5-pin M12 plug, A-coded	See system plug 2116047	Standard (not pre-configured)	PICS150-01000 Pro-1	1134610
Dynamic Sensing Profile package, Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection, IMU (Inertial Measurement Unit), PTP, Native ROS2, Encoders	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 Pro	1155534

- **Working range:** 0.05 m ... 25 m
- **Scanning range:** 25 m at 90% remission factor, 12 m at 10% remission factor
- **Angular resolution:** 0.25°, 0.33°
- **Scanning frequency:** 15 Hz, 25 Hz
- **Integrated application:** 2D Object Detection, LiDAR-LOC 2, Virtual Line Navigation, CODE-LOC, output of measurement data

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Multi-echo technology, Data Reduction & Data Preparation package, Reliability package, LMDscandata (data format), Reflector detection	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 LOC Core	1141395

- **Working range:** 0.05 m ... 60 m
- **Scanning range:** 47 m at 90% remission factor, 25 m at 10% remission factor
- **Angular resolution:** 0.1°, 0.25°
- **Scanning frequency:** 15 Hz, 20 Hz, 25 Hz
- **Integrated application:** 2D Object Detection, LiDAR-LOC 2, Virtual Line Navigation, CODE-LOC, output of measurement data

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Dynamic Sensing Profile package, Multi-echo technology, Data Reduc-	1 "Ethernet" connection, 4-pin M12 female connector, D-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 LOC Prime	1141396

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
tion & Data Preparation package, Reliability package, LMDscandata (data format), Reflector detection	1 "POWER" connection, 12-pin M12 plug, A-coded				

- **Working range:** 0.05 m ... 120 m
- **Scanning range:** 75 m at 90% remission factor, 40 m at 10% remission factor
- **Angular resolution:** 0.05°, 0.1°, 0.125°, 0.25°, 0.33°, 0.5°
- **Scanning frequency:** 15 Hz, 20 Hz, 25 Hz
- **Integrated application:** 2D Object Detection, LiDAR-LOC 2, Virtual Line Navigation, CODE-LOC, output of measurement data

Digital add-ons	Connection type	System plug	Variant	Type	Part no.
Dynamic Sensing Profile package, Multi-echo technology, Data Reduction & Data Preparation package, Reliability package, LMDscandata (data format), Reflector detection, Encoders	1 "Ethernet" connection, 4-pin M12 female connector, D-coded 1 "POWER" connection, 12-pin M12 plug, A-coded	See system plug 2130754	Standard (not pre-configured)	PICS150-01000 LOC Pro	1141397

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