

Operating Instructions



Cabled Handheld Scanner
iSCAN101
iSCAN101PDF
iSCAN1112D

Revision date: 20.12.2019



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Revision control

Document Number **416221, revision 3**

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1. iSCAN101 product range overview



2. Important notes on the operating instructions

2.1 Safety information

Warnings are highlighted by a special symbol and a different font colour:



Danger

**Non-compliance may result in life-threatening situations.
This warning must be heeded.**



Warning

This type of warning concerns dangerous situations that may result in minor injuries.



Info

Important and helpful notes and information.

2.2 Notes on the operating instructions

Before starting up the equipment please read the Manual thoroughly.

The Operating Instructions contain important information on functionality as well as safety rules. If these are not heeded, normal operations within hazardous areas cannot be guaranteed.

The notes contained in this manual are important for starting up and operating the product.

These instructions may be updated at any time. Extronics Limited reserves the right to make changes to this document. Before they use the product, users must ensure that they have the most up-to-date version of the operating instructions. To make sure this is the case, please check Extronics' website, www.extronics.com, or contact one of the company's staff.

The drawings contained in these operating instructions are for illustration purposes only and may differ somewhat from the actual design.



No changes may be made to the device that were not intended or approved by Extronics Limited.



If the handheld scanner is not used properly, the operating permission for hazardous areas may lapse for the device in question.

Non-adherence to the instructions will void any warranty.



For the full commission of the handheld scanner, the programming information contained in the manual issued by SICK AG (www.SICK.com) is also required.

2.3 General notes of caution

Caution / Notes



- The devices may only be operated when fully assembled.
- In hazardous areas, the devices must not be wiped or cleaned with a dry cloth.
- The device must be switched off immediately if it is likely that it can no longer be operated safely as a result of damaging impact or general peculiarities (such as ingress of water or other fluids, temperatures outside of the specified range, etc.).
- General statutory requirements or health and safety rules and accident prevention guidelines and environmental laws must be adhered to (e.g. the German Occupational Health and Safety regulation).
- Users must not open the device.
- Users must not make any changes to the device. Components may not be exchanged or replaced. If non-specified components are used, explosion protection is no longer guaranteed.
- Ensure safe handling with firm footing and sufficient room for movement.
- If the enclosure is in any way damaged the device must be removed from the hazardous area immediately.
- In accordance with IEC 60079-19 and IEC 60079-17, operators of electrical installation in hazardous areas are obliged to have them serviced by qualified electricians.
- Do not insert any sharp objects into the enclosure or any other openings of the handheld barcode scanner. Any openings at the device may not be covered or blocked.
- The device and any accessories must be properly disposed of, i.e. as legally specified, for example by a certified company.



Notes on installation

- Electrical plants are subject to certain regulations concerning installation and operation (e.g. RL 99/92/EG, RL 94/9EG, or the national rules such as IEC 60 079-14 and VDE 0100).
- In the hazardous area it is the operator's responsibility to carry out any repair and maintenance in compliance with applicable rules.

Caution on laser devices



Devices fitted with laser fall under standards US 21 CFR 1040.10 and EN 60825-1. The laser's classification is stated on a plate affixed to the device. Class 1 lasers are deemed inherently safe during normal use, but users must not look directly into the light source. The following declaration is required by American and international laws:

Usage of control elements, adaptations or the use of procedures that differ from these instructions may result in a dangerous exposure to laser beams. Class 2 lasers use a visible low-voltage LED. As with any source of bright light, such as the sun, the user should avoid looking directly into the light. Brief exposure to a class 2 laser is deemed not dangerous.

Maintenance

Provided the device is operated and assembled according to instructions and the ambient requirements are being met continuous maintenance is not necessary.

Servicing

Operators of electric equipment in hazardous areas are obliged to have them serviced by qualified electricians (IEC 60079-19 and IEC 60079-17).

Repairs

Repairs may only be carried out by the manufacturer or by persons trained and commissioned for this purpose by the manufacturer.

The device is closed ex-factory. It may only be opened in the factory by specifically trained personnel.

Software installation

For instructions on how to install the software at the PC please refer to the manual issued by SICK.

Operation

Before operating the device you must ensure that all necessary components are available.



3. Product Information





3.1 Manufacturer

Extronics Limited
 1 Dalton Way
 Midpoint 18
 Middlewich
 CW10 0HU







3.2 Certification

**iSCAN101 and
iSCAN101PDF:**

-  II 2 G Ex ib IIC T4
-  II 2 G Ex ib IIC T4 Gb
-  II 2 D Ex ib IIIC T135°C
-  II 2 D Ex ib IIIC T135°C Db

iSCAN1112D:

-  II 2G Ex ib op is IIB T4
-  II 2G Ex ib op is IIB T4 Gb
-  II 2D Ex ib op is IIIC T135°C
-  II 2D Ex ib op is IIIC T135°C Db

Test certificate

IBEXU15ATEX1083
 IECEx IBE 15.0023

Protection rating

IP65

3.3 Serial numbers

Serial key:

Year of manufacture
(2 numbers)

Serial number
(4 numbers)

Example:

19001



3.4 Technical data

**iSCAN101 and
iSCAN101PDF:**

RS232 version:

- maximum input voltage Ui 4.9 V
- maximum input current li 480 mA
- maximum input power Pi 1.25 W
- maximum internal inductance Li negligible
- maximum internal capacitance Ci 112.4 μ F

USB version:

- maximum input voltage Ui 4.9 V
- maximum input current li 480 mA
- maximum input power Pi 1.25 W
- maximum internal inductance Li negligible
- maximum internal capacitance Ci 112.4 μ F

If using a power supply other than iSCANPSX:

- maximum input voltage Ui 5.6 V
- maximum input current li 480 mA
- maximum input power Pi 1.25 W
- maximum internal inductance Li negligible
- maximum internal capacitance Ci 46 μ F

Note: The input voltage in to the handheld scanner itself is reduced by the associated connection cable iSCAN1XXCAB5 or 6 to 4.9V.

iSCAN1112D:

RS232 version:

- maximum input voltage Ui 5.6 V
- maximum input current li 1140 mA
- maximum input power Pi 4,5 W
- maximum internal inductance Li negligible
- maximum internal capacitance Ci 869 μ F

USB version:

- maximum input voltage Ui 5.6 V
- maximum input current li 1180 mA
- maximum input power Pi 4,5 W
- maximum internal inductance Li negligible
- maximum internal capacitance Ci 869 μ F



**Technical Data
(Scan engine)**

iSCAN101 and iSCAN101PDF:

- Light source Visible red light 630nm
- LED safety LED classification acc. to DIN EN 60825-1
- Scan rate 500 scans per second
- Reader distance 50mm to 800mm (0.5mm)

iSCAN1112D:

- LED lighting Visible red light 630nm
- Laser Visible red light 630nm
- LED safety LED classification acc. to IEC62471
- Laser safety Laser classification acc. to IEC60825-1 Class 1
- Scan rate 60 scans per second
- Reader distance 30mm to 400mm (0.13mm)

Dimensions 104 x 76 x 185 mm (length x width x height)

Ambient temperature -20°C to +50°C

Storage temperature iSCAN101 and iSCAN101PDF:
-30°C to +70°C
iSCAN1112D:
-40°C to +70°C

Weight ca. 200g (without connection cable)

Interface options RS232 TTL / USB

**Terminal assignment
(Handheld scanner)**

USB cable

USB/D+ green
USB/D- white
GND black
+UB brown

RS232 cable

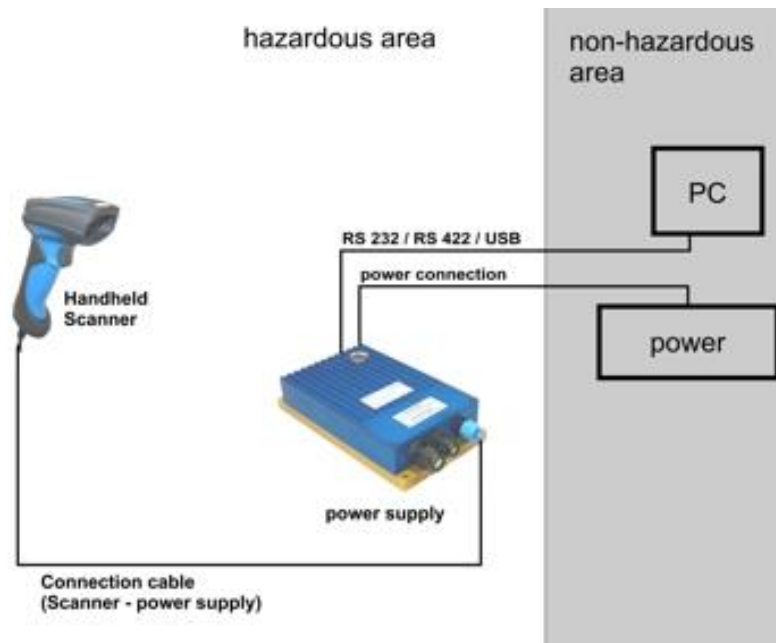
RS232-TXD white
GND brown
+UB yellow



Use the device only with iSCAN1XXCABX connection cable. The iSCAN1112D may only be used in the hazardous area with iSCANPS5-8.



4. System assembly



4.1 Assembly description

The wired handheld scanner was designed for use in hazardous areas. Normal operation requires a power supply, a connection cable between power supply and scanner, and connection cable(s) between power supply and a PC.

External connection cables:

- Data cable:** USB 0.2 - 2.5 mm², 4-wire
RS232 0.2 - 2.5 mm², 3-wire
- Power cable:** 0.2 - 2.5 mm², 3-wire

The handheld scanner and the power supply can be connected and operated in the hazardous area. For safe installation please refer to the manual issued by SICK AG (www.SICK.com)







The warnings and notes of caution contained in these operating instructions and in the manual issued by SICK AG (www.SICK.com) must be adhered to.



For the professional use of the power supply iSCANPSX the operating instructions of the manual of the power supply are necessary.








4.2 Cable range

					
RS232	iSCAN101 iSCAN101PDF iSCAN1112D	1.8 or 3.8m or optional with 4.5m or 6m extension	iSCANPS	Up to 20m	Host
USB	iSCAN101 iSCAN101PDF iSCAN1112D	1.8 or 3,8 m	iSCANPS	Up to 5m	Host


5. Step by step guide to installation and operation

5.1 General connection of handheld scanner


	<p>Insert the RJ45 plug of the cable connecting the handheld scanner with the power supply at the bottom of the scanner.</p> <p> Make sure the plug has engaged fully.</p>
	<p>Cable connected to the wired handheld scanner</p>
	<p>Insert the plug of the connection cable into the power supply's plug connector.</p> <p> Ensure that the connection is fully secured with the screw cap after the plug has been inserted.</p>



5.2 Connection of RS232 iSCANPSX power supply


	<p>The terminal assignment is located underneath the removable cover at the front of the power supply.</p> <p>Caution: Do not open enclosure in the hazardous area. Before operating the device in a hazardous area you have to ensure that the enclosure has been closed fully and all screws have been tightened.</p> <p>Cables may only be connected by trained staff.</p>
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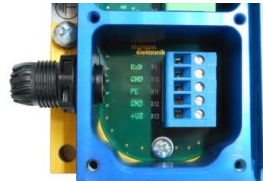
Pin assignment of the plug connector and the pin assignment of the direct connections to the power supply iSCANPSX:

	RS232 cable iSCAN1XXCAB1, 2		Power supply iSCANPS1, 3, 5, 7			
	Pin assignment connection coupling		Pre-assembled Connection coupling		Connection box	
	Pin	Definition	Pin	Wire	Definition	Number
	3	TxD	3	3	RxD	X9
					GND	X10
					PE	X11
2	GND	2	2	GND	X12	
1	+UB	1	1	+UB	X13	




5.3 Direct connection of scanner without plug connection to the RS232 iSCANPSX – connection with cable end sleeve

Pin assignment of scanner	RS232 connection cable (iSCAN1XXCAB1, 2)			Power supply (iSCANPS1, 3, 5, 7)	
	RJ45 Pin assignment	Wire colours	Definition	Connection terminal power supply	Definition
	6	White	TXD	X9	RXD
				X10	GND
				X11	PE
	4	Brown	GND	X12	GND
	7	Yellow	+UB	X13	+UB

	<p>Intrinsically safe connection box of the RS232 iSCANPSX power supply after removal of the wires of the plug connection</p>
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5.4 Connection of USB iSCANPSX power supply




The terminal assignment is located underneath the removable cover at the front of the power supply.

Caution: Do not open enclosure in the hazardous area.
 Before operating the device in a hazardous area you have to ensure that the enclosure has been closed fully and all screws have been tightened.


Cables may only be connected by trained staff.

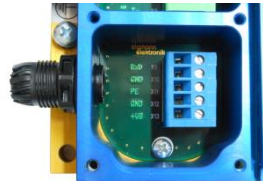
Pin assignment of the plug connector and the pin assignment of the direct connections to the power supply iSCANPSX:

	USB cable iSCAN1XXCAB3, 4		Power supply iSCANPS2, 4, 6, 8			
	Pin assignment connection coupling		Pre-assembled Connection coupling		Connection box	
	Pin	Definition	Pin	Wire	Definition	Number
	3	D+	3	3	D+	X9
	2	D-	2	4	D-	X10
					PE	X11
	4	GND	4	2	GND	X12
	1	+UB	1	1	+UB	X13



5.5 Direct connection of scanner without plug connection to the USB iSCANPS – connection with cable end sleeve

Pin assignment of scanner	USB connection cable (iSCAN1XXCAB3, 4)			Power supply (iSCANPS2, 4, 6, 8)	
	RJ45 Pin assignment	Wire colours	Definition	Connection terminal power supply	Definition
	2	Green	D+	X9	D+
	10	White	D-	X10	D-
				X11	PE
	4	Black	GND	X12	GND
	7	Brown	+UB	X13	+UB

	<p>Intrinsically safe connection box of the USB iSCANPSX power supply after removal of the wires of the plug connection</p>
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