User's Manual

Posiflex TS-2200

Omni-Directional Laser Scanner

Preface

This TS-2200 Omi-Direction Scanner is the continuation of the excellent optical design experience and with a new back-end design, to create an outstanding product performance and reliability. This scanner features high inerrability, flexibility, scanning, and decoding capability. It is ideally suited for supermarkets, pharmacies, petrol stations, and other similar retail stores.

Based on the standard product reliability, the product design concept is fully focused on user's context and mode. It also reduces time and cost.

Our solutions provide instant and accurate scanning, making the checkout process more efficient for you and more convenient for your customers.

- Reduce checkout lines at busy times, including weekends and holidays.
- Create additional points-of-sale anywhere in the store by enabling sales associates to access POS systems in real-time and complete transactions on the store floor.
- True presentation scanning, with Omni-directional and pass through scan capabilities offer a faster, more natural way of working

This scanner reads all popular bar code symbologies, and supports a wide range of scan pattern. In addition, this scanner also provides an aggressive first-pass scanning; reducing the time it takes to scan products, increasing customer satisfaction and employee efficiency. Another important feature of this scanner is its programmable sleep mode which is designed to save power on this scanner. If the scanner is not used within a programmable period of time, the scanner switches off automatically. The scanner can be re-activated by pressing the sleep mode button.

This scanner is available in two colour versions, both supporting multiple interfaces for communication with any host system. The multiple interface versions are: RS-232 + USB + P-USB + Keyboard Wedge (Option).

This manual contains two chapters and three appendices. The first chapter describes this scanner and its general features. The description for installation can be found in the second chapter. Precisely follow the instructions for the installation of the scanner. Default settings can be changed with the bar code labels from the Configuration Guide that came with the scanner.

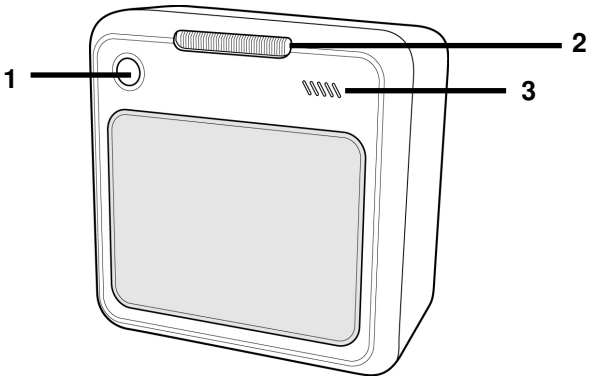
Appendix A gives the pin definition for the Data ports of the scanner. The pin definition may be required when you want to make a new cable for communication with the POS/computer. Technical specifications of this scanner can be found in Appendix B. Refer to Appendix C for troubleshooting if the scanner is not working properly.

Chapter 1 Product Overview

1.1 UNPACKING

Remove the scanner and its accessories from the box and packing material. Refer to the packing list to make sure you have received all the items ordered. Visually inspect the scanner and accessories for any evidence of physical damage. Refer to the figure on page 12 to locate the interface label and make sure that the scanner interface corresponds with the host system interface. Immediately contact your supplier if anything appears to be damaged, or if the supported interface does not correspond with the host system interface.

The specific parts of this scanner are:



1. Sleep mode button

- When a sleep mode time-out is programmed, the scanner can be re-activated by pressing this button. The sleep mode feature is programmable with the menu labels from the Configuration guide.
  NOTE: The default value for the sleep mode time-out is set to 10 minutes. When the scanner is in sleep mode, the LED is intermittently flashing orange.

interface

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2. LED - A blue LED indicates that the scanner is ready to read a bar code. An orange LED indicates a good read.

3. Buzzer - The buzzer is heard whenever data has been read correctly. The frequency and volume can be adjusted.

Standard parts & accessories:

Interface cable - One of various types of cable to connect to your host computer / POS system.

Power supply - Powers your scanner via the AC power outlet if your scanner is not directly powered.

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1.2 DECLARATION OF CONFORMITY

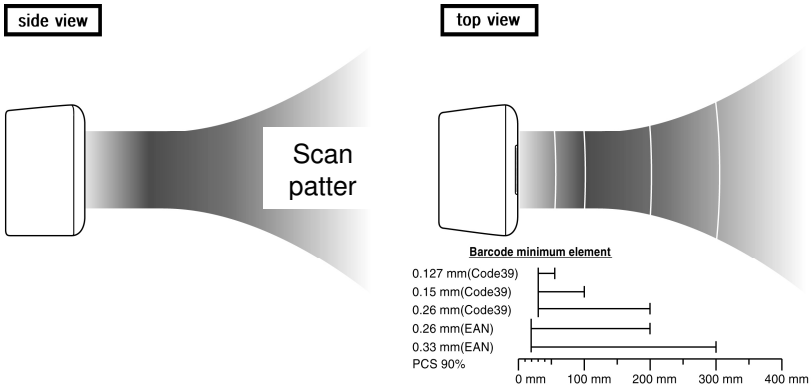
Will comply with the following product specifications:

Laser Safety: - IEC 825-1
Electrical Safety: - EN 60950
EMC: - EN 55022:2006 + A1:2007
- EN 61000-3-2: 2006
- EN 61000-3-3: 1995 + A1:2001 + A2:2005
- EN 55024:1998 + A1:2001 + A2:2003
- IEC 61000-4-2: 1995 + A1: 1998 + A2: 2000;
- IEC 61000-4-3: 2006 + IEC: 61000 -4-4: 2004;
- IEC 61000-4-5: 2005 + IEC: 61000 -4-6: 2003; +A1: 2004 +A2: 2006;
- IEC 61000-4-8: 1993 + A1: 2000; IEC 61000 -4-11:2004

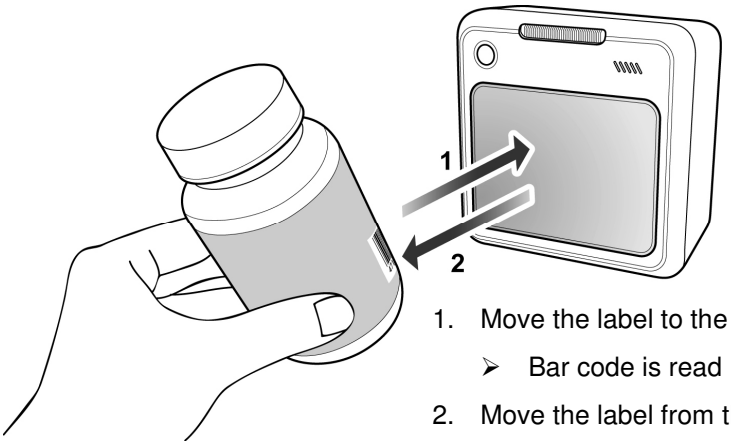
1.3 SCANNING BAR CODES

This scanner is an omni-directional presentation scanner featuring a 7 directional scan field with a 24 lines scan pattern. Bar code labels can easily be read by presenting them to the scanner.

The scanner's scan volume is illustrated in the figure below. The optimal reading zone lies between 2 and 30 cm from the scanner window. The scan depth varies depending on the size of the barcode.



Scanning a bar code label with a presentation scanner is very simple: present the product's bar code label to the scanner as illustrated in the figure below.

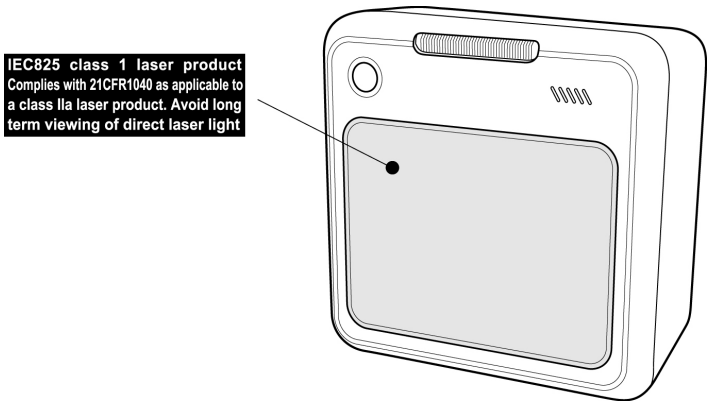


1. Move the label to the scanner.
   - ➢ Bar code is read (orange LED).
2. Move the label from the scanner.

1.4 SCANNER LABELLING

Two labels are present on the housing of this scanner as indicated in the figure below. Two labels are also visible through the scanner window. All labels are attached by the manufacturer and should not be removed.

The scanner's serial number is found underneath the bar code label as depicted in the figure above. This official registration number is strictly related to the device. The supplier may ask for this number when the scanner needs servicing.



Laser safety

German:
Der Strichcode-Scanner entspricht den Sicherheitsvorschriften nach IEC 825-1 (1993) für ein Laserprodukt der Klasse I. Er entspricht auch U.S. 21CFR1040, anwendbar auf ein Laserprodukt der Klasse IIa. Vermeiden Sie langzeitiges Hineinblicken in direktes Laserlicht.

Dutch:
De scanner voldoet aan de veiligheidsnormen IEC 825-1 (1993) voor een Klasse I laserproduct. Tevens voldoet de scanner aan U.S. 21CFR1040, van toepassing op een Klasse IIa laserproduct. Vermijd langdurig kijken in direct laserlicht.

French:
Le scanner est conforme aux normes de sécurité IEC 825-1 (1993) s'appliquant à un produit laser de la classe I. Il est également conforme à la U.S. 21CFR1040 telle qu'elle s'applique à un produit laser de la classe IIa. Eviter de rester exposé longtemps à la lumière directe du laser.

Danish:
Skanneren er i overensstemmelse med sikkerhedsstandarden IEC 825-1 (1993) for laserprodukter i klasse I. Den er også i overensstemmelse med U.S. 21CFR1040, der gælder for laserprodukter i klasse IIa. Undgå at se direkte på laserlys i længere perioder.

Finnish:
Skanneri täyttää luokan I lasertuotteelle IEC 825-1:ssä (1993) asetetut turvavaatimukset. Se täyttää myös U.S. 21CFR1040:ssa asetetut vaatimukset siltä osin kuin ne koskevat luokan IIa lasertuotetta. Vältä pitkäaikaista suoraan laservaloon katsomista.

Swedish:
Avsökaren uppfyller säkerhetsnormen IEC 825-1 (1993) för laserprodukter av klass 1. Den uppfyller dessutom U.S. 21CFR1040 som gäller för laserprodukter av klass IIa. Undvik att titta i direkt laserljus under längre perioder.

Norwegian:
Skanneren er i samsvar med sikkerhetsstandarden IEC 825-1 (1993) for laserprodukter i klasse I. Den er også i samvar med U.S. 21CFR1040 for laserprodukter i klasse IIa. Unngå å se langvarig på direkte laserlys.

Italian:
Lo scanner è conforme alle norme di sicurezza IEC 825-1 (1993) relative ad un prodotto laser di Classe 1. È inoltre conforme alla norma U.S. 21CFR1040 relativa ad un prodotto laser di Classe IIa. Evitare l'esposizione prolungata all'emissione diretta di luce laser.

Portuguese:
O scanner está conforme as normas de segurança IEC 825-1 (1993) para a Classe 1 dos produtos laser. Também está conforme a norma U.S. 21CFR1040 aplicada nos produtos laser da Classe IIa. Evite expor os olhos directa e prolongadamente aos raios laser.

Spanish:
El scanner reune las normas de seguridad IEC 825-1 (1993) para un producto laser de Clase 1. Y también reune las normas U.S. 21CFR1040 que se aplican a un producto laser de Clase IIa. Se debe evitar mirar muy fijo en luz lasérica directa.

English:
The scanner complies with safety standard IEC 825-1 (1993) for a Class I laser product. It also complies with U.S. 21CFR1040 as applicable to a Class IIa laser product. Avoid long term viewing of direct laser light.

Optical:
The use of optical instruments with this product will increase eye hazard. Optical instruments include binoculars, microscopes and magnifying glasses but do not include eye glasses worn by the user.

Radiant Energy:
The scanner uses a low-power laser diode operating at 630…670 nm in an opto-mechanical scanner resulting in less than 0.6 mW peak output power. Laser light observed at 13 cm (5.1 in.) above the window through a 7 mm (0.28 in.) aperture and averaged over 1000 seconds is less than 3.9 µW per CDRH Class IIa specification. Do not attempt to remove the protective housing of the scanner, as unscanned laser light with a peak output up to 0.8 mW could be accessible inside.

Laser Light Viewer:
The scanner window is the only aperture through which laser light may be observed on this product.
A failure of the scanner motor, while the laser diode continues to emit a laser beam, may cause emission levels to exceed those for safe operation. The scanner has safeguards to

prevent this occurrence. If, however, a stationary laser beam is emitted, the failing scanner should be disconnected from its power source immediately.

Adjustments:
Do not attempt any adjustments to or alteration of this product. Do not remove the scanner's protective housing. There are no user-serviceable parts inside.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

1.5 MAINTAINING THE SCANNER

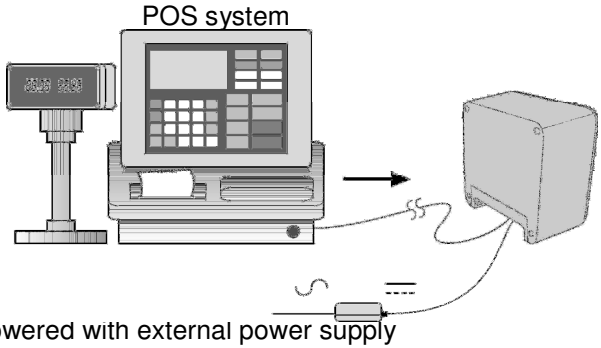
This scanner requires little maintenance. Only occasional cleaning of the scanner window is necessary to remove dirt and fingerprints. Cleaning can be performed during operation with a non-abrasive glass spray cleaner and a soft lint-free cloth.

1.6 CONTROLLING THE SCANNER FROM THE POS SYSTEM

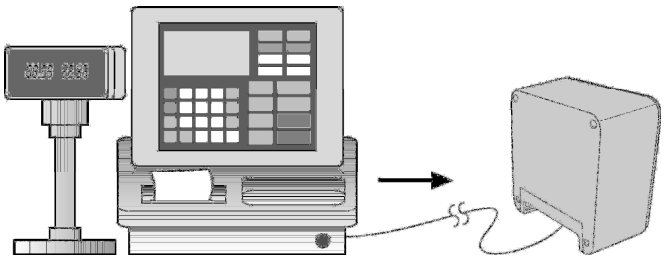
This scanner can be controlled from the POS system via the RS232C interface. Control is achieved by transmitting the following single byte commands to the scanner. In the default setting the following commands are available (more details upon request):

ASCII code	function	byte is also called:
05 Hex	power-up re-initialization	ENQ or <Ctrl-E>
OE Hex	enable (cancels disable)	Shift Out or <Ctrl-N>
OF Hex	disable	Shift In or <Ctrl-O>
12 Hex	sleep	DC2 or <Ctrl-R>
14 Hex	wake (cancels sleep)	DC4 or <Ctrl-T>

When the scanner is disabled (indicated by the blinking red LED), the motor of the scanner will stay on until the scanner goes into sleep mode.



Powered with external power supply



Direct powering

Chapter 2 Installation

This scanner can be installed on a counter surface. Instructions for installation on a counter surface are given in Section 2.3.

Due to many POS systems on the market, a large number of communication cables are available. Make sure that you have the right cable to connect the scanner to your POS or computer.

NOTE

The scanner and the host system must be switched off before starting the installation of the scanner. By following this precaution you prevent any electrical damage.

You are advised to install the scanner in an air circulated place out of direct sunlight.

2.1 CONNECTING THE SCANNER

Before you connect any cables to the scanner, check whether you should guide them through the foot or counter surface!

This scanner features a triple interface in one standard unit:

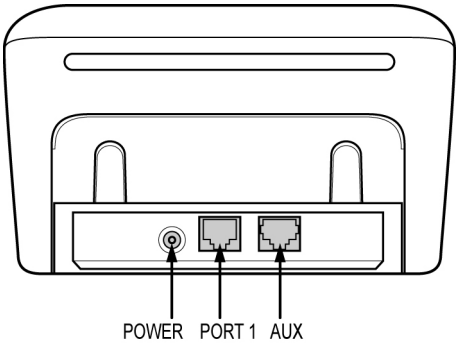
- RS232 + Keyboard Wedge (KBW) + USB and powered USB (Option).

It also provides:

- Auxiliary port for additional scanner
- Power connector

If you use “Direct Powering”, power is supplied by the host and you do not need to connect an external power supply to the Power Input entry.

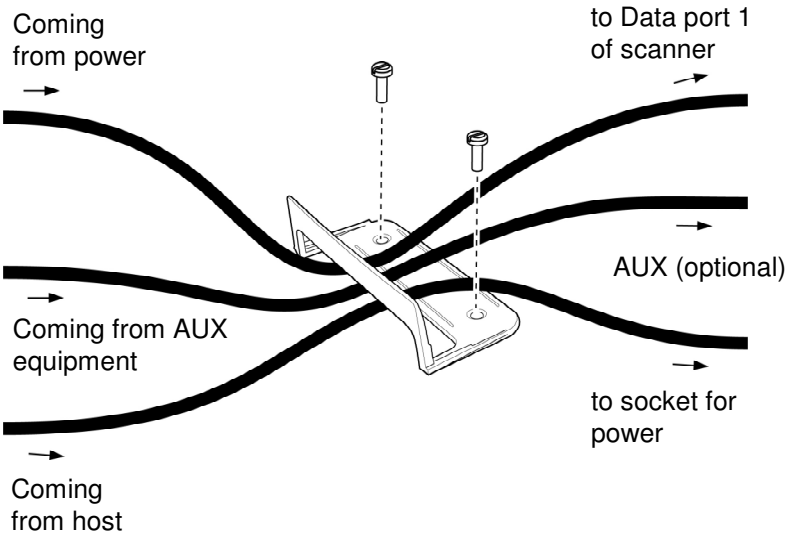
Use the illustration below to see where to connect your cable(s) to the scanner.



2.2 INSTALLING THE SCANNER ON A COUNTER SURFACE

To install this scanner on a counter surface, follow the instructions below.

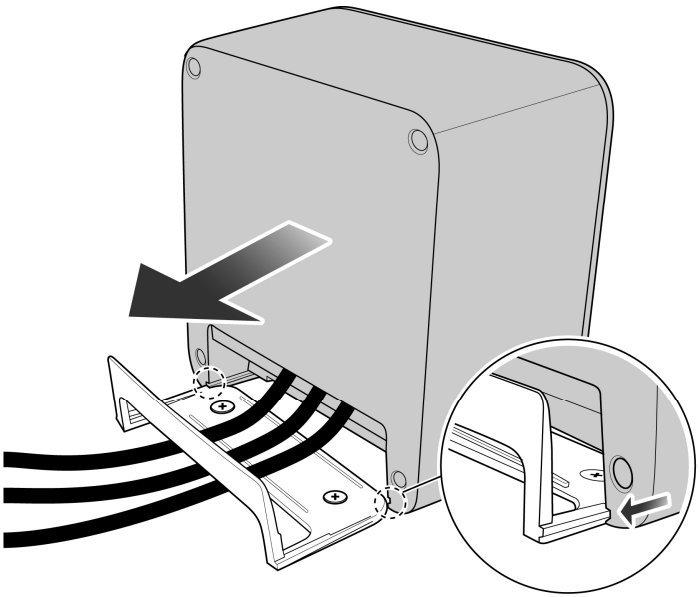
1. Remove the two rubber feet from the back cover. Lead the communication cable and power supply cable through the slit. Fasten the back cover to the surface with two screws as illustrated in the figure.



NOTE

- You can use the back cover as a template to mark the places for the mounting holes at the counter surface and drill two holes.
- If you do not want to drill holes in the counter top, the scanner can be installed without fixing it to the surface. In this case the rubber feet will prevent the scanner from sliding.

2. Position this scanner as indicated in the figure below and rotate the scanner around the cover. Make sure that connectors and cables are placed as indicated in the figures, to allow easy attachment of the scanner to the back cover. Press the scanner until a "click" is heard.



3. Plug the remote ends of all cables into the appropriate connections of your host POS-system.
4. If you are using an external power supply, power on this scanner by plugging the power supply into an AC power outlet. Switch on the host system.

IMPORTANT

To activate USB or KBW interface, scan the following codes from the Configuration Guide:

1. **Open** the scanner Programming Mode by scanning code 1.1.
2. **Return to factory default settings** by scanning code 1.3.

Once this scanner is installed, you can start scanning bar code labels. If you want to change the default settings of the scanner, proceed to the Configuration Guide which came with this scanner.

TROUBLESHOOTING

This section contains information on solving problems you may encounter when using the scanner. If troubles occur, take a moment to read the information in this section. However, before referring to the diagnostic tips make sure that the scanner is installed as described in Chapter 2 and that all cables are properly connected.

Problem	Diagnostic Tips
The scanner is on but a bar code cannot be read. The LED is blue.	▪ The scanner window is dirty. Clean the scanner window as described in the Maintenance section. ▪ The presented bar code type is not enabled. Select the bar code type with the Configuration Guide. ▪ The scanner is disabled by the host. Refer to Section 1.6. ▪ The bar code type you presented to the scanner is not supported by the scanner.
The scanner is on, but the motor is not rotating. A bar code cannot be read. The LED is intermittently flashing orange.	▪ The scanner is in sleep mode. Press the switch on top of the scanner to reactivate the scanner (or use the wake protocol. Refer to section 1.6).
The LED is alternating blue/orange.	▪ Mirror motor is defective and must be replaced (Authorized personnel only).

Problem	Diagnostic Tips
The LED is alternating blue/orange and beeps are heard.	▪ Possible failure of the scanning safeguard circuit. Immediately disconnect the scanner from its power source. Contact your supplier.
The scanner does not accept more than two or three bar codes.	▪ There is no proper handshaking with the host system. Switch the host system on and check connection and communication settings.
The LED is blinking blue/orange.	▪ The ambient temperature is too high. Make sure the scanner has enough air ventilation and is not placed in direct sunlight.
The LED remains blue.	▪ The scanner is continuously seeing a bar code. Remove all bar code labels from the scan volume of the scanner and try again. ▪ The scanner cannot send the data to the host system. There is no proper handshaking between the scanner and the host. Scanner buffer is full. Make sure that all cables are connected and your host system is ready to receive data.

Problem	Diagnostic Tips
A bar code is read by the scanner but not accepted by the host system.	▪ The communication cable is not connected to the serial port of your host system. Refer to the manual of your host system to locate the serial port. ▪ The communication settings of the host and scanner do not match. Ensure that the setting values for both devices are the same. For proper adjustment values see the Configuration Guide. ▪ The communication cable does not suit your host system. Contact your supplier for the correct communication cable. ▪ The data format is not supported by the software running on the host system.

Problem	Diagnostic Tips
USB is not working.	▪ Unless you use USB plus power, you need a separate power connection to the scanner like the external power supply. ▪ Restart the scanner by temporarily disconnecting the power. This may help the POS system to detect the scanner. The very first time the PC might install some general drivers, possibly from your computer setup CD. ▪ In case of KB emulation you can select various 'keyboard languages' or the universal 'Alt-input-method'. ▪ In a windows environment verify with the device manager that a HID (Human Interface Device) is installed for the scanner. ▪ Ensure that both the scanner and POS-system/Computer expect the same USB protocol (KB emulation, RS-232 emulation or IBM POS protocol). See Configuration Manual for setup codes and reset (re-power) the scanner after making any changes.

Due to **Posiflex** continuing product improvement programs, specifications and features are subject to change without notice.