ZEBEX
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User's Manual

Superb Bi-Optical
In-Counter Scanner

Revision History

Changes to the original manual are listed below:

Version	Date	Description of Version
1.0	October 6, 2016	Initial release
1.1	November 29, 2016	Dimension modified
1.2	December 28, 2016	Added scale jumper section
1.3	April 07, 2017	Corrected typo in components
1.4	October 18, 2018	VFD voltage corrected
1.5	July 26, 2019	USB setting revised

Important Notice

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We have taken reasonable measures to provide information in this manual that is complete and accurate. However, the material in this guide is for information only; we reserve the right to make changes in product design without reservation and without prior notification. For the latest revision please contact your distributor.

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'LEGAL NOTE' blocks indicate procedures or activities which may be regulated under law by government agencies. It is your responsibility to ensure compliance with the regulations that govern installation of weighing devices.

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This manual is in A5 format. Please check your printer setting before printing it out.

Laser Safety
The scanner complies with safety standard IEC 60825 for a Class I laser product. Avoid long term staring into direct laser light.

Radiant Energy: The Advanced Dual-Laser Omnidirectional In-Counter Scanner uses two low-power visible laser diodes operating at 650nm in an opto-mechanical scanner resulting in less than 3.9µW radiated power as observed through a 7mm aperture and averaged over 10 seconds.

Do not attempt to remove the protective housing of the scanner, as unscanned laser light with a peak output up to 0.8mW would be accessible inside.

Laser Light Viewing: The scan window is the only aperture through which laser light may be observed from 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 or alteration of this product. Do not remove the protective housing of the scanner. 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.

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

For CE-Countries

This scanner is in conformity with CE standards. Please note that an approved, CE-marked power supply unit should be used in order to maintain CE conformance.

Table of Contents

Important Notice ii

Introduction 2

- Key Features 2
- Unpacking 3
- Components 4

Connection 7

- Connecting Power 7
- Verifying Scanner Operation 8
- Connecting to the Host 8
  - Interface Cable 8
- Interface Cable Replacement 9

Installation 12

- Pre-Installation Considerations 12
- Installing the Scanner to the Counter 12
  - Shelf Mounting 13
- Auxiliary Handheld Scanner Connection 14
- Connecting EAS System 16
- Installing SD Card 19

Set Up 20

- Configuring the Scanner 20
- Power-Up Self-Test 20
- Scan Test 20
- Parameter Setting 21
- Controlling the Scanner from POS System 22

Scanner Operation 23

- LED Indications 23
- Sound Indications 24
- Sleep Mode 24

Scale Operation 25

- Pre-Operation 25
- LED Behavior 25
- Weighting Items 25
- Calibrating the Scale 27
  - Scale Jumper (Calibration Switch) 30
  - Scale Jumper Seal (Calibration Switch Seal) 30
  - Scale Jumper Cover (Calibration Switch Cover) 30
  - Calibration 31
- Supplementary Device 32
  - Zeroing device 32

Tare device 32
Leveling device 32
Blocking device 33
How to Scan 34
Scan Volume 34
Scan Mode 34
Maintaining the Scanner 35
Trouble Shooting 36
Specification 37
Pin Assignment 39
DC JACK 39
Host 39
AUX 39
TDR 40
VFD 40
EAS 40
Interface Cable 41

Introduction

Built with brilliant accuracy and wide scanning angles, Z-6910MS bi-optic scanner eliminates traffics in high volume retail environments. Featuring an outstanding one-pass scanning ability, cashiers can scan items without constantly readjusting the scanner positions. By moving the checkout line at a much higher speed, Z-6910 can help you achieve a new elevated level of productivity and efficiency.

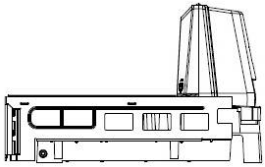
Key Features

- First class bi-optical technology
- Excellent first read rate
- Visual diagnostic LED
- Easy on-site configuration and upgradeability
- Scanner/scale combination

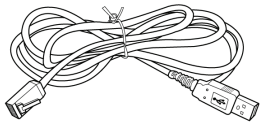
Unpacking

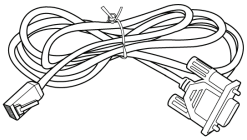
The omnidirectional scanner package contains:

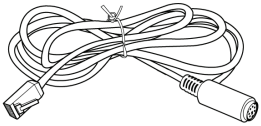
Superb Bi-Optical In-Counter Scanner



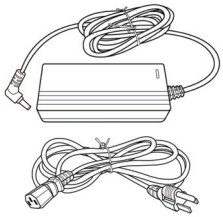
Interface cable
(Type depends on customer selection)







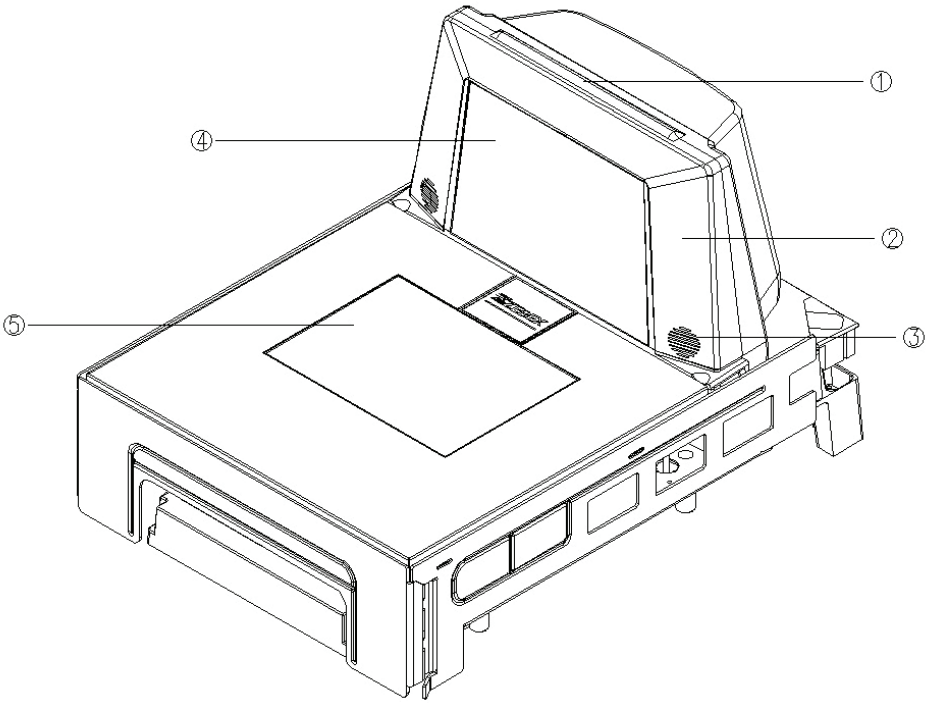
Power supply & power cord
(Model depends on electrical requirements of your geographic location)



If any contents are damaged or missing, please contact your dealer immediately.

Components

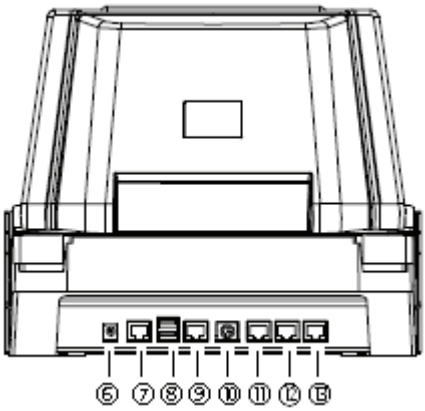
Top View



Scanner Top View

	Description	Function
1	LED indicator	Indicating reading status
2	Control panel	6 buttons controlling scanner functions (see the Font View below)
3	Speaker exit *2	Beep tone indication
4	Top scan window	Laser aperture for vertical scanning
5	Bottom Scan window/Scale	Laser aperture for horizontal scanning/scale for weight measuring

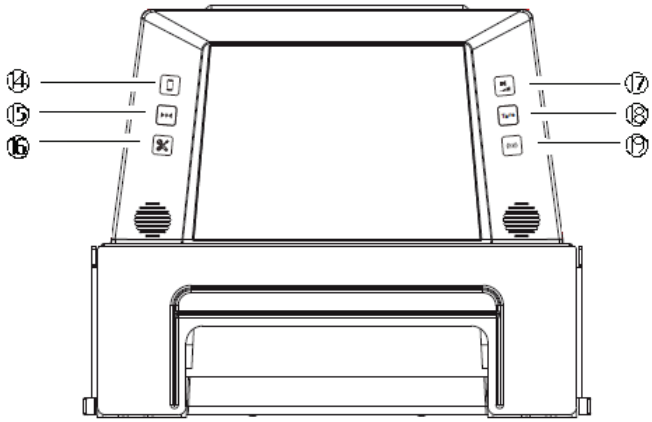
Rear View



Scanner Rear View

	Description	Function
6	DC Jack	External AC power input
7	Host Port	Interface communication connection to the host
8	USB Host	Not in use at this time
9	AUX Port	Connecting an auxiliary peripheral device, usually a handheld scanner
10	TDR	Connecting an optional Top Down Reader
11	Scale Host	Connecting an external scale device
12	VFD	Connecting an external display
13	EAS Port	Electronic article surveillance connection

Front View



	Description	Function
14	E commerce	Press to read the barcode(s) by mobile commerce reader
15	Zero	Press to zero the scale/quit the setting
16	Self Test	Press to start self test
17	Volume	Press to control volume
18	Tare	Press to tare the scale
19	Manual EAS deactivation	Press to deactivate EAS

Connection

Connecting Power

The power supply provides +12 volts DC voltage to the scanner; the detailed power requirement is as below:

Voltage	AC100~240
Frequency	50~60HZ
Current (RMS)	1000mA
Output	+12V

A power cord is required to connect the electrical outlet and power supply. Select the proper IEC power cord for your country. To connect an external power to the scanner, plug the power supply into the power jack on the scanner and then plug the power supply into an AC outlet. Green LED would light when the scanner is powered and ready to scan.

The scanner turns on when the AC power is supplied, and turns off when the power is removed. There is no on/off switch on the scanner itself.

Use only an AC/DC power supply approved for the scanner. Use of other power supplies may cause damage to the product, and void the factory warranty. You must verify that the power source will supply "clean" electrical power to the equipment; that is, it must be free of excess electrical noise.

Verifying Scanner Operation

Before connecting the scanner to host or mounting to counter, you may follow the procedure below to verify scanning operation.

1. Insert the 10-pin modular plug of the interface cable into the "Host" connector on the scanner until a firm click is heard.
2. Plug the other end of the cable to the host.
3. Power up the scanner.
4. Present a known-good test barcode to the scanner. The scanner should issue a short beep and the LED should flash red momentarily.

If the scanner does not produce any beeps, or produces the wrong beeps, or the LED is not lit up, remove the power connection and refer to the section of Troubleshooting.

Connecting to the Host

The interface cable comes with different host-end connectors, depending on the host.

Follow the steps below to connect the device to the host.

1. Turn off the host system.
2. Connect the scanner and the host with the interface cable (Refer to your host manual to locate the correct port for the scanner).
3. Plug the power cable to the jack on the device and connect the power cord to an AC outlet.
4. If necessary, set up the scanner interface with the barcode in the programming guide. (Refer to the Set Up section.)
5. Turn on the host system.

Interface Cable

The scanner communicates with the host through various types of interfaces. The standard types of interface are:

- Keyboard wedge
- RS-232
- USB (supporting HID USB, virtual COM USB)
- IBM 468x/469x

Interface Cable Replacement

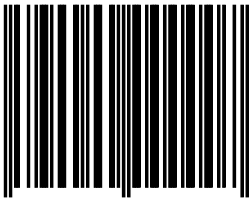
The standard interface cable is attached to the scanner with a 10-pin modular connector. When properly seated, the connector is secured in the scanner bottom by a flexible retention tab. You can easily replace the communication cable and set up the interface via programming. Replacement cables can be obtained from your distributor.

Follow these steps to replace the interface cable:

1. Turn off the host system and power off the scanner.
2. Disconnect the old interface cable from the host.
3. Press down the small tab on the connector where the old cable is attached to the scanner and pull out the connector.
4. Insert the 10-pin modular plug of a new interface cable into the "Host" connector on the scanner until it clicks.
5. Plug the new cable into the host.
6. Re-program the scanner interface with barcodes below or refer to the Programming Guide for more setting guidance.

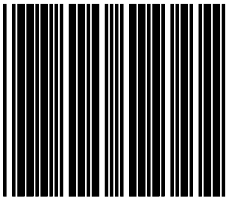
Enter/Exit Programming Mode

Scan this barcode to enter the set-up or to exit after the set-up is finished. The LED would remain red when in programming mode.



Return to PC/AT default

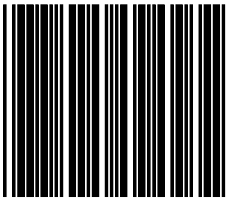
This barcode allows setting as keyboard wedge interface for IBM PC AT/PS/2 and compatibles.



Cover the unwanted barcode to ensure that the scanner read the desired barcode only.

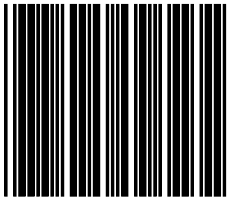
Return to RS-232 default

The RS-232C interface scanner is often used when connecting to the serial port of a PC or terminal.



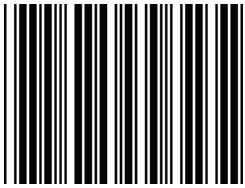
Return to HID USB default

Reading of "Return to HID USB default" sets the device into HID USB interface support.



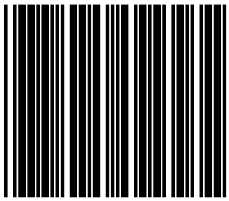
Return to USB-Virtual COM port default

Reading of "Return to USB-Virtual COM port default" sets the device into USB-Virtual COM port interface support.



Cover the unwanted barcode to ensure that the scanner read the desired barcode only.

Return to Wand Emulation Default



Installation

Pre-Installation Considerations

Before mounting the scanner, some considerations are as below:

- Determine the direction of package flow for your application. Locate the optimum scanner position in the counter surface. Pay attention to the product flow, distance to the counter edge and convenience for the operator.
- Placement of the scanner should allow easy access to other components as well as optimize communication between the scanner, the POS terminal, the additional handheld scanner and any EAS peripheral equipment. Do not route interfaces cables near any electrical motors or other source of electromagnetic interference.
- To ensure mounting stability, avoid placing the scanner in such a way as to subject it to excess vibration, bumping, spilled liquid, etc.
- The scanner should be installed in a location away from direct sunlight since high levels of ambient light reduce scanner effectiveness.
- The scanner housing is designed to provide adequate space for convective cooling. However, to prolong working hours, the scanner should be placed at where there is adequate convective air flow and no major heat producing equipment nearby. The air temperature inside the check stand must not exceed 40°C (104°F).

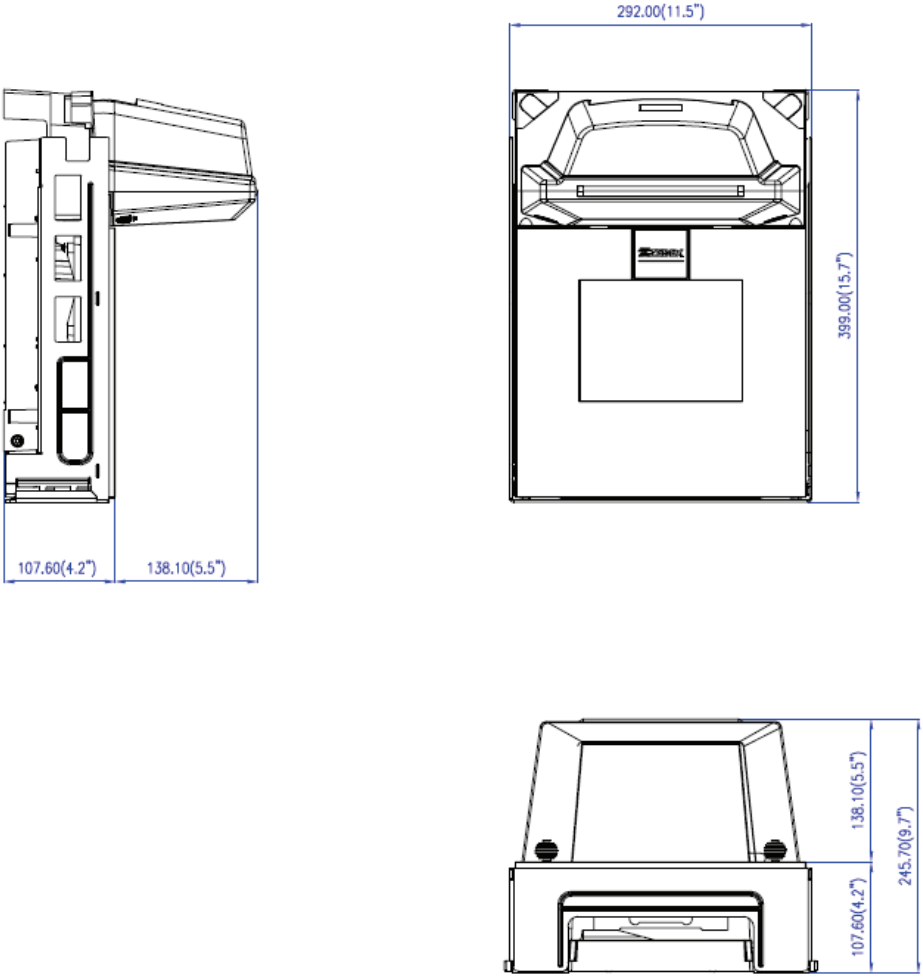
Installing the Scanner to the Counter

The scanner is to be mounted in the counter by shelf mounting. You can use a shelf to support the unit.

To protect the device, when mounting the scanner, do not turn the scanner upside down or press on the window glass.

Shelf Mounting

You can build a shelf under the counter surface to support the unit. Refer to the following figure for the dimensions of the opening.



Shelf Mounting

Auxiliary Handheld Scanner Connection

Auxiliary Port

The scanner provides an auxiliary port for the use of an additional peripheral device to be connected to the host system via the scanner itself. It is usually used to connect a handheld scanner for items too large to place on the checkstand.

The auxiliary port will support 5VDC devices with a 300mA maximum current. If the auxiliary device exceeds this specification, an external power supply will be required to power the auxiliary device.

Cable pin-out information for the auxiliary port is as following:

Pin	Function
1	Reserved (for factory use)
2	N.C.
3	+5V output, 300mA max.
4	RTS
5	Ground
6	TX
7	RX
8	NC
9	CTS
10	Reserved (for factory use)

Handheld Data Format Requirements

Before installation, the connected handheld scanner must be configured to transmit data format as below.

Baud rate	9600
Data bit	8
Parity	None
Stop bit	1
Handshaking	RTS/CTS
Message terminator	STX/ETX

Code 39 identifier code	M
ITF 2 of 5 identifier code	I
Chinese post code identifier code	H
UPC-A identifier code	A
UPC-E identifier code	E
EAN-13 identifier code	F
EAN-8 identifier code	FF
Codabar identifier code	N
Code 128 identifier code	K
Code 93 identifier code	L
MSI identifier code	P
GS1 CodeBar Omnidirectional identifier code	RS
GS1 CodeBar Limited identifier code	RL
GS1 CodeBar Expanded	RX

Installation of an Auxiliary Scanner

Before installation, contact your distributor to make sure the device and firmware version support such a function. Once you're sure about it, follow the steps below to use the auxiliary port as a handheld scanner input port:

Follow the following steps to use the auxiliary port as a handheld

1. Configure the handheld scanner data format as above table requirements.
2. Turn off the host system.
3. Connect the handheld scanner to the auxiliary port using the auxiliary cable.
4. Connect the external power supply for the auxiliary scanner (if required).
5. Use the programming barcodes to activate the auxiliary port of the in-counter scanner and set up its data transmission mode. (Refer to its separate Programming Guide.)

Connecting EAS System

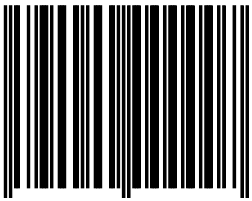
The scanner supports the use of an EAS antenna and can work simultaneously with an EAS system using the interlock feature. When enabled, users may scan and deactivate an item at the same time.

The scanner's integrated EAS deactivation antenna requires an EAS host cable.

1. Make sure that the power of the EAS system is off.
2. Plug the cable to the appropriate connectors on the scanner and the EAS system.
3. Program the Omnidirectional In-Counter Scanner with the necessary barcodes on the next page.

Enter/Exit Programming Mode

Scan this barcode to enter the set-up or to exit after the set-up is finished. The LED would remain red when in programming mode.



Setting EAS Interlock

When enabled, the EAS tag is not de-activated until the associated barcode is decoded.

EAS Interlock Enable

When disabled (default), the EAS tag is de-activated independently of any barcode scanning.

EAS Interlock Disable (default)

Setting EAS Active

Use this setting to set the polarity of the EAS allowing the scanner to send an EAS output after a good barcode read to deactivate a tag on the product.

EAS Active state=Active high

EAS Active state=Active Low (default)

Setting EAS Timeout

Use this setting to set EAS Timeout. EAS output signal is held in its active state for a good read indication. To set the timeout:

1. Scan the Enter/Exit Programming barcode to begin the setup.
2. Scan 3 ASCII number barcodes (Please see Programming Guide) to set the time in millisecond. For example:
   - 000:disable the feature
   - 001:10 msec
   - 002:20 msec
   - 250:2500 msec (2.5second)
3. Scan the Enter/Exit Programming barcode to save the settings.

Set EAS Timeout

EAS Port

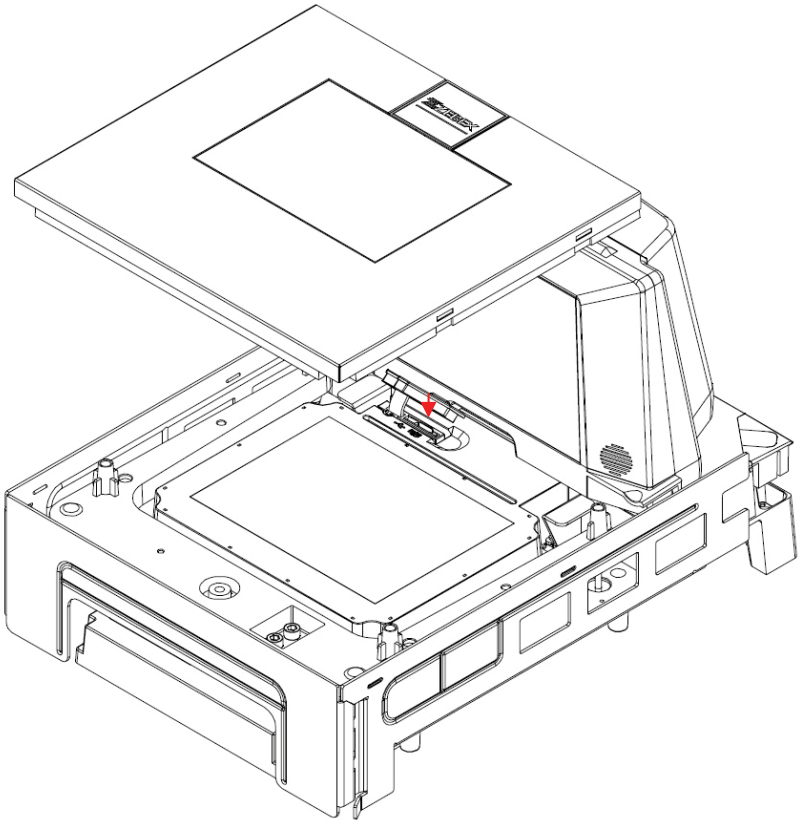
Cable pin-out information for the EAS port is as following:

RS232 IN ONLY	
PIN	FUNCTION
1	Ground
2	Antenna +
3	Antenna -
4	EAS GPIO OUT
5	EAS GPIO IN
6	Shield

Installing SD Card

Follow the steps below to insert the SD card.

1. Carefully lift the window glass and take it off the scanner.
2. Open the SD card slot cover.
3. Insert the SD card.



Please power off the device before proceeding.

Set Up

Configuring the Scanner

The scanner is either pre-programmed to suit the situation, or it automatically detects and is ready to go. In certain cases no setup is required. In other cases the scanner must be informed about what kind of system it is connected to. This can be done in a few moments using the programming barcodes in the separate Programming Guide.

The programming section may be used to set a number of parameters on the scanner: communication interface type, sleep mode timing, same-code delay time, barcode symbologies, and more advanced settings like setting headers and trailers.

The settings are to be stored in non-volatile memory and are preserved even when the scanner is powered down. Individual parameters may be set at any time without affecting the other parameters.

Power-Up Self-Test

The scanner would automatically run the self-test when the power is supplied. It is to verify that the scanner and interface are functioning properly and takes only seconds. The unit would give four beeps in series to indicate that the scanner passed self-test; green LED would light on afterwards. It the scanner fails the self-test, both the green and red LED would light on (appearing the color purple); a continuous beeping may also be heard.

Scan Test

After the scanner passes the power-up self-test, it is ready to scan. Follow the steps below to ensure that your scanner can work well with your host system.

With the scanner running (green LED lights up) and the host system on, try to scan several known-good barcodes.
Check the results on the POS screen. If the scanner is reading okay, it is likely that no further setup is necessary.
If the POS screen does not show the expected scans, go to the Parameter Setting section below.

Parameter Setting

When the scanner is powered on (green LED lights up), find the <Enter/Exit Programming Mode> barcode in the Programming Guide and present this barcode to the scanner. When the scanner gives two beeps (one high and one low) and the LED turns red, it means the scanner is in programming mode.

Decide which parameters are required and find their barcodes in the Programming Guide.

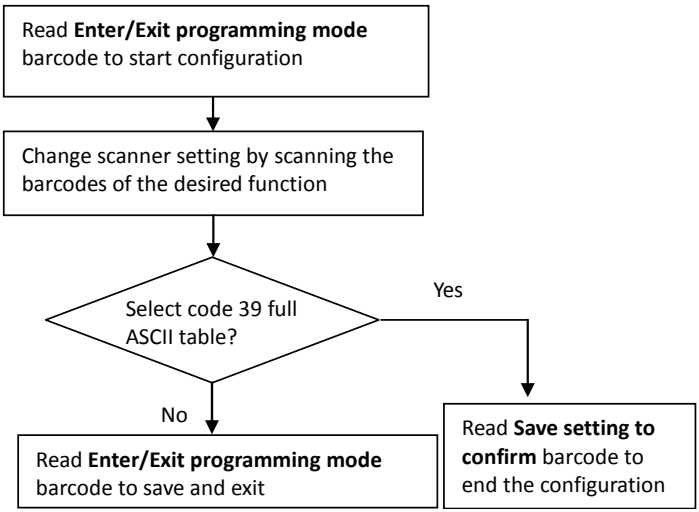
Cover unwanted codes with your hand and present the desired codes one by one to the scanner; the scanner beeps once as it accepts each code.

For some parameter setting, such as barcode length and identifier code, it is required to scan the **Set** barcode to save the configuration.

When done, again present the <Enter/Exit Programming Mode> barcode.

The scanner beeps twice of the same tone, and the LED returns to green. It means the scanner has been programmed.

Test again with known-good barcodes. If results are good, you are done setting up. Otherwise, return to step 1 and try again.



Controlling the Scanner from POS System

The scanner can be controlled from the POS system via the RS-232C interface. Controlling can be accomplished by transmitting the following single byte commands to the scanner. The default settings of the commands are as follows:

0E Hex	enable (resumes disable)	Shift Out or <Ctrl-N>
0F Hex	disable	Shift In or <Ctrl-O>
12 Hex	sleep	DC2 <Ctrl-R>
14 Hex	wake up (resumes sleep)	DC4 <Ctrl-T>

When the scanner is disabled (unable to scan), the motor of the scanner will stay on until the scanner goes into sleep mode.

Scanner Operation

LED Indications

There are red and green dual color LED indications on the top of the device indicating the operational status of the scanner.

LED off	No power supplied to the scanner.
Steady blue light	The scanner is powered on.
Steady Green light	The scanner and scale is powered on and ready to scan.
One red flash	A barcode has been successfully decoded.
Steady red light	A barcode has been successfully decoded, but the object is not removed from the scan window.
	The scanner is in programming mode.
Flashing Green light	The scanner is in sleep mode.
Steady Green light	This indicates the scanner has a motor or laser failure. For motor failure, a periodic beep is sounded. In this case, return the unit for repair.
Flashing red light	The scanner is programmed in USB interface but not connected to a host device.
Dot Matrix "E3"	Laser failure
Dot Matrix "E2"	Motor failure
Dot Matrix "S3"	Calibration required
Dot Matrix "S4"	Weight overload

Sound Indications

The device uses a speaker to give audio feedback on scanner operation. The beeper tone and duration are adjustable with the Programming Guide.

One beep	A barcode has been successfully decoded.
Two beeps: high-low	The scanner has entered programming mode.
Two beeps: same tone	Scanner has returned from programming to normal mode.
Four beeps in series	This indicates the scanner passed self-test when powered on and is operating properly.

Sleep Mode

After the scanner has been inactive for a specific length of time, the laser and the motor would automatically turn off. This state is called "sleep mode." The green LED would blink as indication.

It takes two steps to enter the sleep mode. The first step is the laser switching off after 10 minutes; the second step is the motor switching off after 30 minutes. The time period is programmable.

The scanner has IR sensor that detect activity in front of the scan window. To wake up the scanner, present an object into the IR detection range in front of the horizontal scan window. The detecting distance is about 15cm (5.9 inch) from the scan window *w*hile in condition with effectiveness of environment lights. Another way to wake up the scanner is to simply press a button on the control panel.

Scale Operation

Pre-Operation

Pre- operation mode:

1. Power on (blue LED flashes once)
2. Self check (LED off)
3. Self check finish and system normal(green led on)

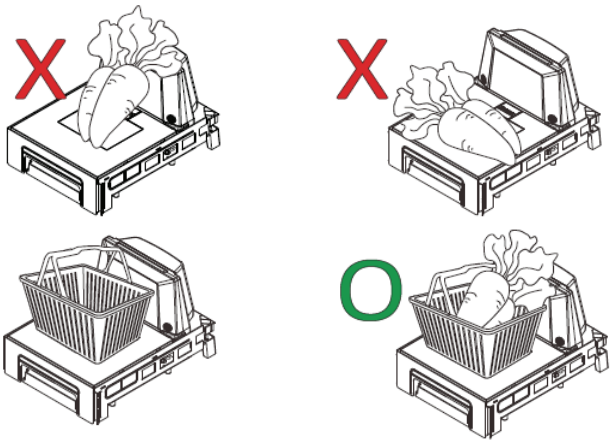
LED Behavior

Scanner /Scale Operation Mode:

- Red when the barcode be scanned
- Blue when Power on
- Green when scale ready.

Weighting Items

When the sizes of items are larger than the scale, please use the tare function to subtract the container weight then place the items in the container for the weighting.

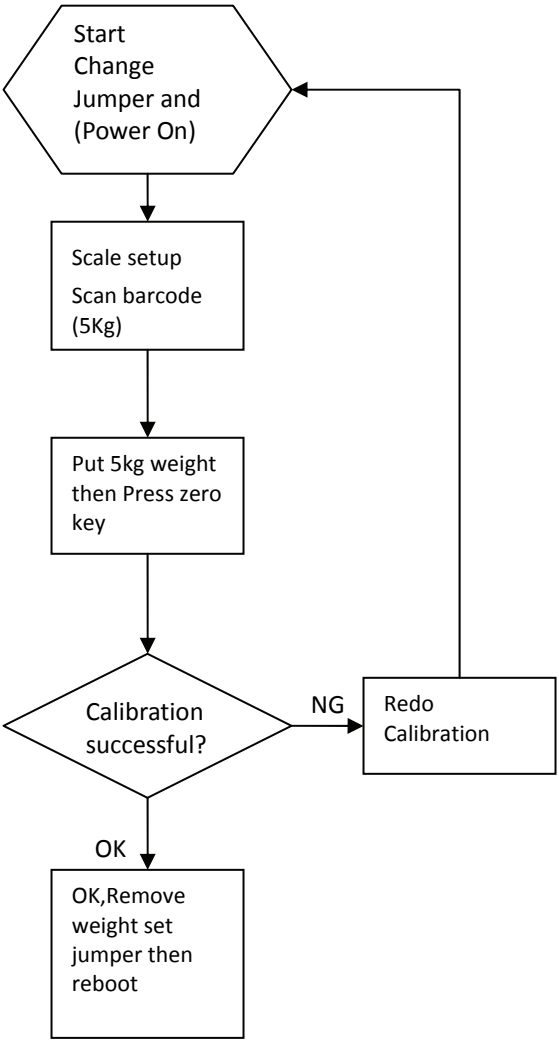


Behavior Table

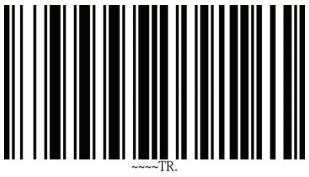
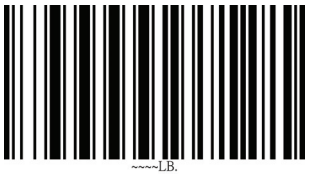
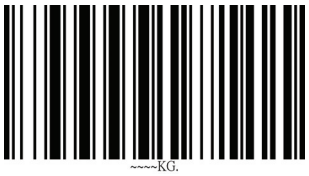
State / Function	Beep	LED	Diagnostic Indicator	VFD	Period
Power in	1 long tone and 3 short tone	Green		Version message	
Unit Select	1 tone	Red 0.5 sec then Green		- lb or - kg	
Press Zero key	1 tone	Green		"0.000lb" or "0.000kg"	
Scanner/Scale Operation (Ready to weigh)	None	Green		"0.000lb" or "0.000kg"	
Weighing	None	Green			
Over weighting			Error Code	Err 3	
Calibration Mode Power in		Blue		Version message	
Calibration Mode Scan barcode	1 tone	Red		Scale setup Scan barcode	
Put 5kg weight then press Zero key	1 tone	Red		Put 5kg then Press zero key	
Calibration completed	1 tone	Red		OK,Remove weight set jumper then reboot	
- Calibration Failed		Red		Scale set fail ,Reboot!	

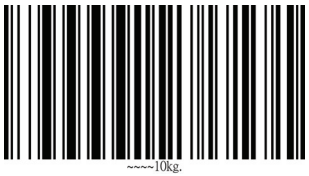
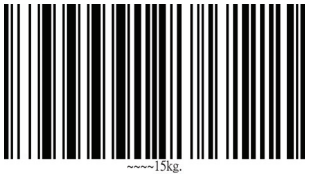
Calibrating the Scale

Follow the chart below to calibrate you scale.



Scan the barcodes below to change the scanner settings.

Function	Description	Barcode
TR	Tare Device	 ~~~~TR.
ZO	Zeroing Device	~~~~ZO.
LB.	Select LB as weight unit	 ~~~~LB.
KG.	Select KG as weight unit	 ~~~~KG.

5kg	For 5Kg Calibration	
10kg	For 10K Calibration	
15kg	For 15K Calibration	

Scale Jumper (Calibration Switch)

This jumper initiates the scale's calibration routine. A certified weight set is needed to perform the scale calibration steps detailed in calibrating the scale section. This jumper is not included in scanners without scale modules.

Scale Jumper Seal (Calibration Switch Seal)

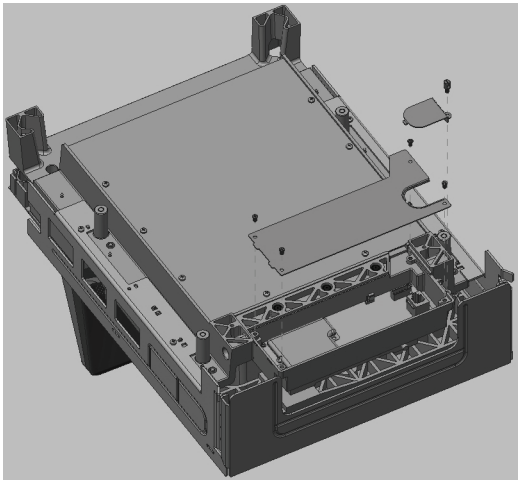
This seal allows you to secure the Scale Jumper access cover and restrict access to the Scale Jumper. If the calibration seal is broken or missing, you may be prohibited from operating the scale without recertification. Check local and state requirements for specific restrictions.

Scale Jumper Cover (Calibration Switch Cover)

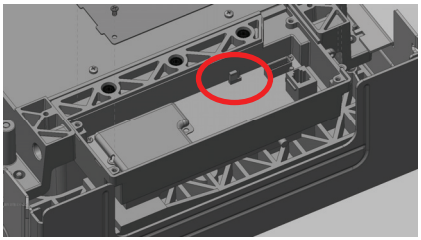
This cover restricts access to the Scale Jumper to help guard against unauthorized tampering when sealed. See figures below.

LEGAL NOTE

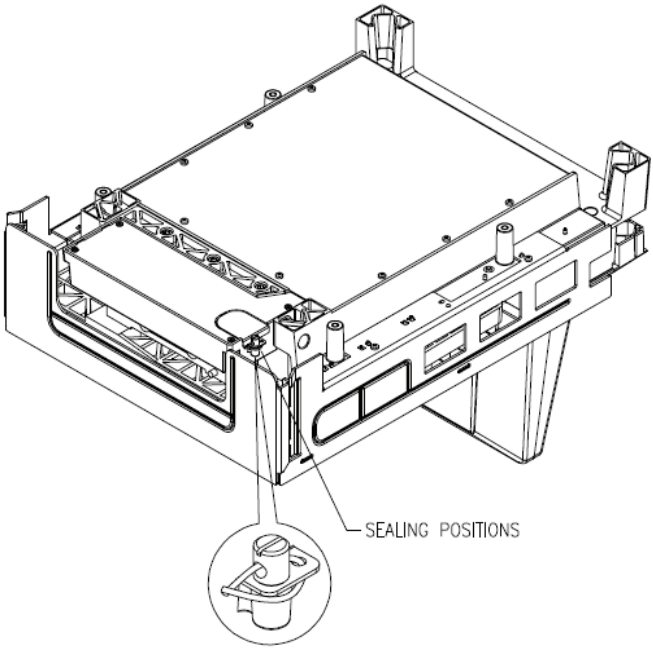
There are regulations that must be followed in order to ensure compliance when operating a weighing device such as the scanner/scale. Failure to observe and comply with these regulations could result in legal action



Scale Jumper Cover



Scale Jumper



Calibration

To calibrate the scale:

1. Turn the power off.
2. Switch the scale jumper to two whites.
3. Scan a calibration barcode (5Kg, 10, kg, or 15kg).
4. Place instructed weight on the scale.
5. Turn the power off after confirmation.
6. Switch the scale jumper back to one white.
7. Power on and the scale should be ready to use.

Supplementary Device

Zeroing device

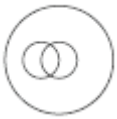
Remove all loads from platter and press ZERO to set the current pan load as zero.
Note: Zeroing can only be used if the weight is under 300 g.

Tare device

The tare device works as a tare-balancing device. To turn on the tare press the Tare button and set the current pan load as the tare value.

Leveling device

The leveling device is used to level the scale on the work stand. To level the scale, place it on a on a stable, flat surface and adjust the 4 screws until the air bubble is completely closed in the circle drawn on the indicator.



Level indicator

Screw adjustment

Blocking device

The scale automatically blocks weighting when conditions make the correct weighting impossible. Reasons of scale blocking:

- Lack of communication with A/D converter
- Damaged calibration parameters in memory
- Communication error on SPI bus
- Wrong position of the service switch
- Scale not calibrated
- Change of the value of calibration standard
- Change of the gravity coefficient
- Supplying voltage of the scale too low
- Lack of communication with the main display
- Initial zero error at switching the scale on
- An object over 300g is placed on the scale at power on
- Incorrect interface set (ex. Set USB interface without connecting USB cable)

How to Scan

Scan Volume

The device is an omnidirectional presentation scanner with a 10-direction scan field with a 40-line scan pattern. The scan volume extends approximately 20cm (8") in front of the scan window. Barcodes are most effortlessly scanned when swept through the scan volume from the scan window. On the other hand, the two LED indicate reading status as well as package flow. As illustrated in Figure 13, the product flow can be from the right to the left or the left to the right.

Scan Mode

The scanner is to be mounted in a check stand. It works in three scanning modes to cater to different counter placement and operation convenience:

- Sliding mode: Users slide items over the counter surface without grasping or picking them up.
- Sweeping mode: Users sweep items through the scan volume. Left to right or right to left are both okay.
- Presentation mode: Users "present" items to the scan window. The scanner can read barcodes as long as the item is within the scan volume, with or without the barcode facing the scan window.

Facing barcode labels in the direction of scanning or toward the scan window will optimize the scan rate.

Maintaining the Scanner

The scanner is designed for long-term trouble-free operation and rarely requires any maintenance. Only an occasional cleaning of the scanner window is necessary in order to remove dirt and fingerprints. It can be cleaned while the scanner is running.

When cleaning, wipe the scan window with a soft lint-free cloth and a non-abrasive cleaner to avoid scratching and damaging the scan window. Do not spray water or cleaning liquid directly into the window.

If the scanner's housing needs cleaning, use a mild cleaning agent that does not contain strong oxidizing chemicals; otherwise the exterior may be damaged.

Trouble Shooting

This section contains information about how to solve problems that you may encounter when operating the scanner. However, before referring to the tips, make sure that the scanner is installed as instructed in this manual and that all cables are properly connected. If the problem remains, please contact your dealer.

The scanner is on but cannot read barcodes.	The scanner window is dirty. Clean the scanner window as described in the Maintenance section. The presented barcode type is not enabled. Select the barcode type in the Programming Guide. The host disables the scanner. The barcode type you presented to the scanner is not supported.
The scanner is on, but the motor is not rotating. A barcode cannot be read.	The scanner has entered the sleep mode. Press the switch on the top of the scanner to wake up the scanner (or use the wake protocol.)
The scanner does not accept more than two or three barcode labels.	There is no proper handshaking with the POS system. Switch on the POS system and check the connection and communication settings. The scanner is continuously seeing a barcode. Remove all barcode labels out of the scan volume of the scanner and try again. The scanner cannot send the data to the POS system. There is no proper handshaking between the scanner and the host. Make sure that all cables are connected and your POS system is ready to receive data.
A barcode is read by the scanner but not accepted by the POS system.	The interface cable is not connected to the correct port of your POS system. Refer to the manual of your POS system to locate the serial port. The communication settings of the system and scanner do not match. Adjust the settings in order to be equal for both devices. The interface cable does not suit your POS system. Contact your dealer for the correct interface cable. The software running on the POS system does not support the data format of the barcode label.

Specification

Optical	Horizontal	Horizontal	Vertical	2D	Unit
	Motor speed	4500	4500	TBD	RPM
	Polygon	4	4		side
	Scan direction	5	5		side
	Scan engine	2	2		pcs
	Scan line	40	40		line
	single line speed	80	80		line/sec
	omi-line speed	3200	3200		line/sec
	DOF(13mil)	0-180	0-250		mm
	Resolution	4mil	5mil		mil
Interface	Host port	RS232, USB HID, USB Virtual COM, IBM468X,Keyboard, OPOS USB			
	Auxiliary port	Powered RS232			
	EAS Port				
	Remote Display	VFD 20*2 Characters (option)			
	SD Card				
Power	Input Voltage	100~240VAC 50/60Hz			
	DC Input scanner	+12V			
Environment	Operating temperature	0~40˚C			
	Storing temperature	-20˚C~60˚C			
	Operating humidity	5% ～ 85% (No dewing allowed)			
	Light levels	4500LUX			
Physical	Indicator	3 colors (blue, green, red) 2 LED DOT matrix (5*7)			
	Button	4 buttons(E commerce, volume, selftest mode, manual deactivation)			
	volume	2W Speaker/50mm, at 10CM 90dB			
Dimensions	Length x Width	399mm * 292mm			
	Height	138.1mm (Above Counter)			
	Depth	107.6mm (Below Counter)			

Regulatory	Laser class	IEC60825-1 class1
	EMC	CE EN55022,B, FCC part 15 Class A,VCCI,BSMI
	IP	IP54 (scan-engine only)
Scale Capacities	Maximum Static Weight	70kg
	Adjustments Required	Calibration only
	Vibration Immunity	TBD

Specifications for scales

Scale type		
Display(VFD)		
Environment	Operating temperature	0~40˚C
Power	Input from Scanner	5V/ 11mA DC
Number of scale intervals	3000	
Initial zeroing rang	± 10% * Max = ±1,500g	
Semi-automatic zeroing range	± 1% * Max = ±150g	

Specifications of double range scale

Class of accuracy	Ⅲ
Measurement specifications	Double range
Minimum load	40g
Maximum load	Max_1=6kg Max_2=15kg
Elementary and verification scale intervals	$d_1=e_1$=2g $d_2=e_2$=5g
Tare range (subtracting tare)	T= -5998g

Pin Assignment

DC JACK

INNER	+12V
OUTER	GND

Host

PIN	Keyboard Wedge	RS232	USB
1	N/C	RTS (RS232 level)	N/C
2	Keyboard_ Data	N/C	USB_D+
3	PC_ Clock	N/C	USB_D-
4	Ground	Ground	Ground
5	N/C	CTS (RS232 level)	N/C
6	N/C	RXD (RS232 level)	N/C
7	Keyboard_ Clock	N/C	N/C
8	PC 5V	N/C	USB 5V
9	PC_ Data	N/C	N/C
10	N/C	TXD (RS232 level)	N/C

AUX

RS232 IN ONLY	
PIN	FUNCTION
1	Reserved (for factory use)
2	N.C.
3	+5V output, 300mA max.
4	RTS
5	Ground
6	TX
7	RX
8	NC
9	CTS
10	Reserved (for factory use)

TDR

UART IN ONLY	
PIN	FUNCTION
1	+5V
2	TXD
3	RTS
4	GOOD READ
5	GND
6	CTS
7	RXD
8	TRIGGER

VFD

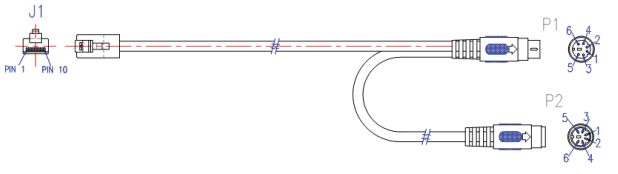
RS232 IN ONLY	
PIN	FUNCTION
1	Reserved (for factory use)
2	+12V
3	NC
4	RTS
5	Ground
6	TX
7	RX
8	NC
9	CTS
10	Reserved (for factory use)

EAS

RS232 IN ONLY	
PIN	FUNCTION
1	Ground
2	Antenna +
3	Antenna -
4	EAS GPIO OUT
5	EAS GPIO IN
6	Shield

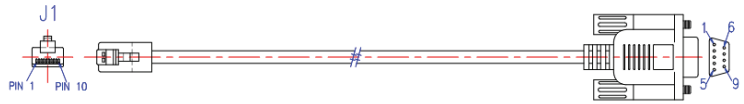
Interface Cable

Keyboard Wedge Cable (for PS/2)



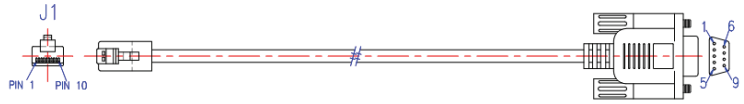
PIN-OUT CONFIGURATION			
P1- MINI DIN (M)		P2- MINI DIN (F)	
Din	Din	Din	Din
1.	PC Data	1.	KB Data
2.	N.C.	2.	N.C.
3.	GND	3.	GND
4.	PC 5V	4.	PC 5V
5.	PC Clock	5.	KB Clock
6.	N.C.	6.	N.C.

RS-232C Cable – DTE Pin Out



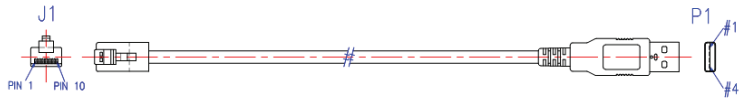
DB-9 (F)	FUNCTION
2	TX
3	RX
7	CTS
8	RTS
5	GND

RS-232C Cable – DCE Pin Out



DB-9 (F)	FUNCTION
2	RX
3	TX
7	RTS
8	CTS
5	GND

USB HID / Virtual COM / OPOS Cable



Connector USB Type A	Function
1.	VCC
2.	D-
3.	D+
4.	VSS