PowerScan™
BC9600 & BC9620 Base Stations

QUICK REFERENCE GUIDE

Industrial Base Station/Charger
for PowerScan 9600 Family Bar Code Readers

DATALOGIC

Datalogic S.r.l.
Via S. Vitalino, 13
40012 Calderara di Reno (BO)
Italia
Telefono: +39 051 3147011
Fax: +39 051 3147205

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Patents

See www.patents.datalogic.com for patent list.

See the Regulatory Addendum included with your product for additional regulatory, safety and legal information.

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POWERSCAN™ BC9600 BASE STATIONS

USING THE BC9600 BASE STATION

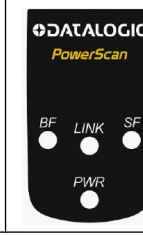
The BC9600 base station, when paired with one or more PowerScan™ PM/PBT9600 readers, builds a Cordless Reading System for the collection, decoding and transmission of bar code data. It can be connected to a Host PC via RS232, USB, USB Type C or Ethernet, depending on the interchangeable connection module.

With the adoption of the Wireless Power Transfer technology, the base station can charge the battery of the gun without contacts, with a performance depending on the power supply type used.

The label on the base station has LED indicators and a touch button. Touch the button for 2 seconds and all properly configured and switched on scanners (with battery profile different from Max Autonomy) that are linked to that base station and within the radio range coverage, will emit a beep and blink within 5 seconds. This feature is useful to:

- verify which scanners are linked to a particular base station;
- detect a scanner forgotten somewhere.

The LEDs signal the BC9600 status, as explained below.

LED	STATUS	
Green LED	Solid green: the base station is powered. Blinking: the base station is receiving data	
Lateral Light Bands	Indicates the state of the battery charge. Orange slow blinking: battery level is under 50%, the reader is charging. Green slow blinking: battery level is over 50%, the reader is charging. Solid Green: the battery of the reader is fully charged.	
Ethernet (Ethernet models only)	- BF LED (red/green): network status; - LINK LED (yellow/green): link activity; - SF LED (red/green): module status; - PWR LED (green): power ON (located on the connection module this LED is not visible when installed in the cradle).	

BASE STATION MODELS

Each base station is composed of a cradle which must be connected to a connection module, depending on the interface desired and on the IP (water and dust) protection grade.

The base station and connection module models are listed below.

Base Station Models

BC9600-433	BASE/CHARGER 433MHZ w/o conn. module
BC9600-910	BASE/CHARGER 910MHZ w/o conn. module
BC9630-433	BASE/CHARGER 433MHZ M-INT
BC9630-910	BASE/CHARGER 910MHZ M-INT
BC9631-433	BASE/CHARGER 433MHZ M-INT IP65
BC9631-910	BASE/CHARGER 910MHZ M-INT IP65
BC9680-433	BASE/CHARGER 433MHZ ETH/PROFINET
BC9680-910	BASE/CHARGER 910MHZ ETH/PROFINET
BC9681-433-N100	BASE/CHARGER 433 ETH/PROFINET IP65
BC9681-433-N200	BASE/CHARGER 433 ETH/ETH IP IP65
BC9681-910-N100	BASE/CHARGER 910 ETH/PROFINET IP65
BC9681-910-N200	BASE/CHARGER 910 ETH/ETH IP IP65
BC9600-BT	BASE/CHARGER BT NO-INT w/o conn. module
BC9630-BT	BASE/CHARGER BT M-INT
BC9631-BT	BASE/CHARGER BT M-INT IP65
BC9680-BT	BASE/CHARGER BT ETH/PROFINET
BC9680-ETCD90	BASE/CHARGER ETH/ETH/IP
BC9681-BT-N100	BASE/CHARGER BT ETH/PROFINET IP65
BC9681-BT-N200	BASE/CHARGER BT ETH/ETH IP IP65
BC9620-430	BC9620 BASE/CHARGER 433MHZ USB ONLY
BC9620-910	BC9620 BASE/CHARGER 910MHZ USB ONLY
BC9620-BT	BC9620 BASE/CHARGER BT USB ONLY

Connection Module Models

CM9630	CONN MOD M-INT
CM9631	CONN MOD M-INT IP65
CM9680	CONN MOD ETH/PROFINET
CM9680-N200	CONN MOD ETH/ETH/IP
CM9681-N100	CONN MOD ETH/PROFINET IP65
CM9681-N200	CONN MOD ETH/ETH IP IP65

INSTALLATION

To set up your BC9600 base station you must:

1. Physically install it.
2. Make all system connections.
3. Configure it.

PACKAGE CONTENTS

The base station package contains the following items:

- BC9600 Base Station (with Desktop Positioning Tab installed)
- 1 Mounting plate

MOUNTING INSTRUCTIONS

The base station can be either set on or mounted to a flat surface for desktop usage, or affixed vertically to a wall.

Depending on the model, the appropriate connection module is already installed.

PERMANENT MOUNTING

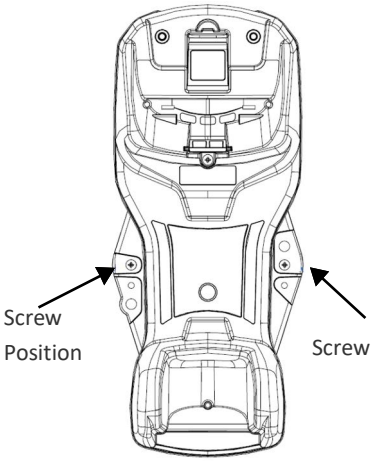
For either desktop or wall mounting, the base station can be fastened directly to a flat surface using screws (not included).

NOTE: When the base station is mounted on vertical surfaces, permanent mounting is always required.

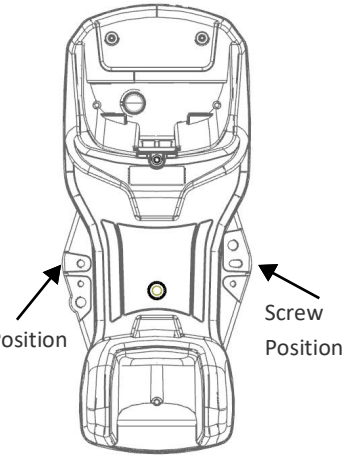
NOTE: For vertical installation, do not exceed two meters in height.

NOTE: When mounting on drywall, the base station should be screwed to a wall stud or supporting beam for additional support.

BC9630



BC9620



WALL MOUNTING

The base station contains a reversible positioning tab for horizontal or vertical mounting.

Figure 1 - Positioning Tab

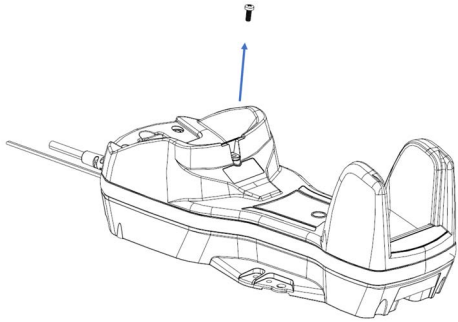
Desktop Positioning Tab (Horizontal)

Wall Positioning Tab (Vertical)

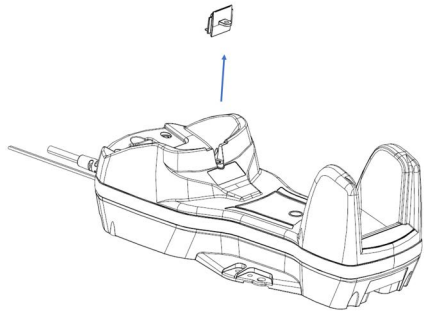
When shipped, the base station has the positioning tab installed in the Desktop position (horizontal). For vertical installation, the positioning tab must be rotated.

Changing the Orientation of the Positioning Tab:

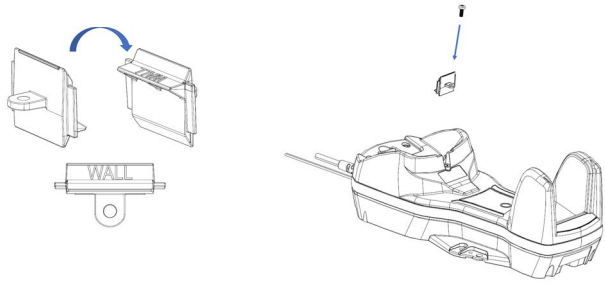
1. Remove the screw holding the tab in place. Keep the screw for reuse.



2. Carefully lift the tab out.



3. Rotate the tab until you will see "WALL" tooth, put the rotated tab into place and secure it with the screw.

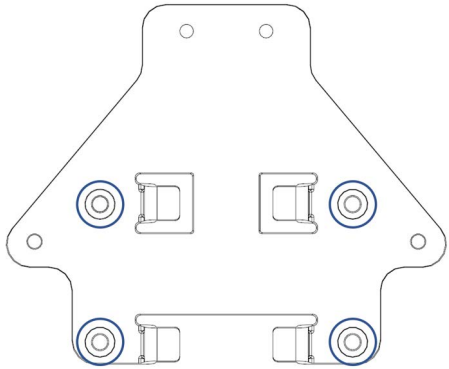


PORTABLE DESKTOP MOUNTING

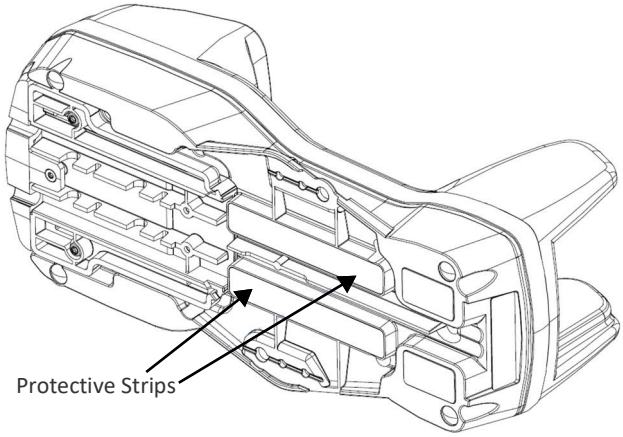
For desktop mounting, if portability of the base station is required, the mounting plate can be used. There are two ways this can be done: (1) **base station fast release** by first fixing the mounting plate onto a flat surface so the base station can be slid off and on, or (2) **connection module fast release** by fixing the mounting plate to the connection module and then fixing both of them onto a flat surface so only the cradle can be slid off while the connection module will remain on the desk.

Base Station Fast Release - Mounting the Plate

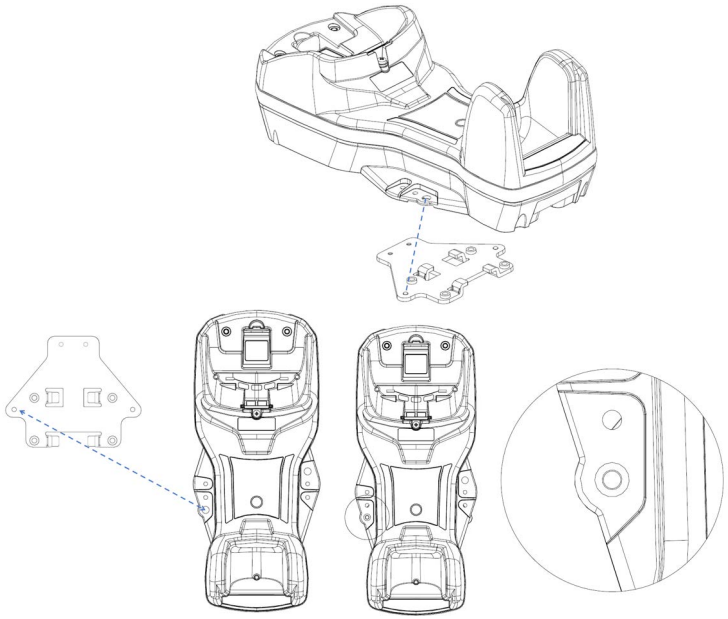
1. Affix the mounting plate onto the desired mounting surface using four screws through the holes highlighted in the figure below.



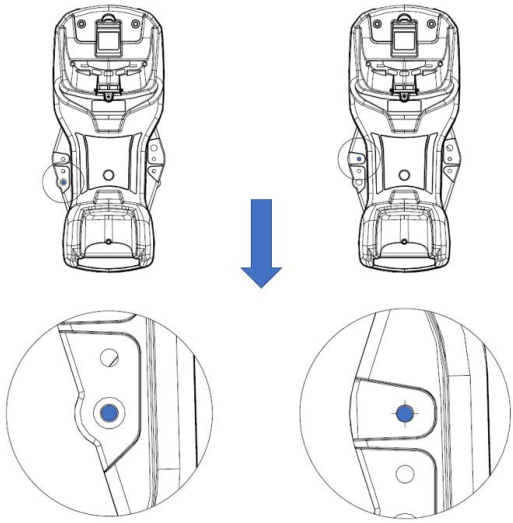
2. Remove the adhesive strips protecting the mounting tabs on the base station.



3. Align the base station with the mounting plate until you see the sphere inside the bigger hole on the left.

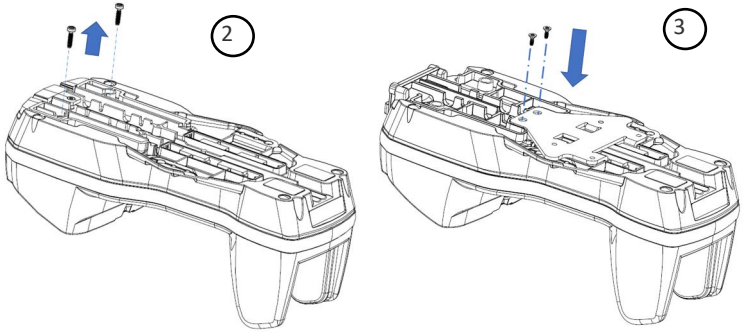


4. Move the base station down until the sphere is aligned with the smaller hole.

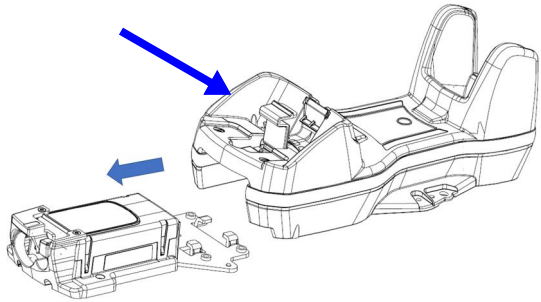


Connection Module Fast Release - Mounting the Bracket (not valid for BC9620 models)

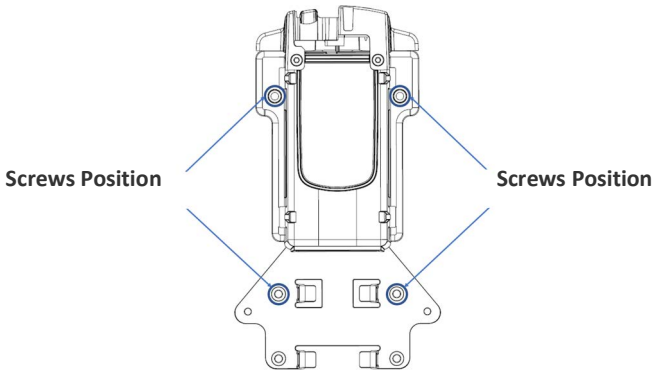
1. Remove the protective strips.
2. Unscrew the connection module from the base station.
3. Screw the mounting plate to the connection module.



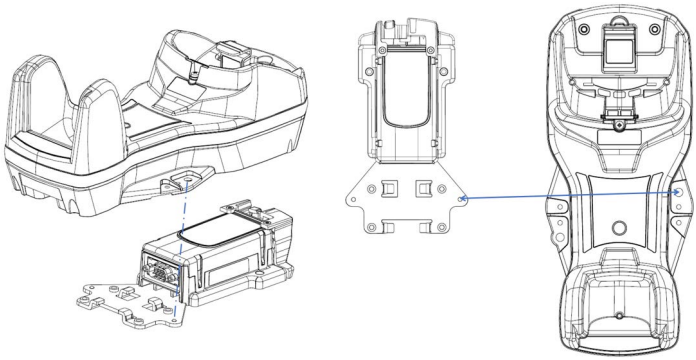
4. Unlock the lever and remove the connection module from the base station.



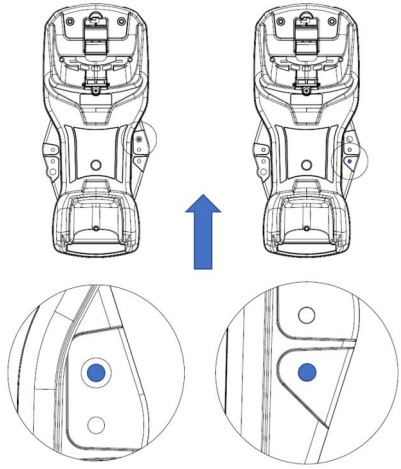
5. Screw the connection module and mounting plate sub-assembly to a flat surface using four screws as shown in the figure below.

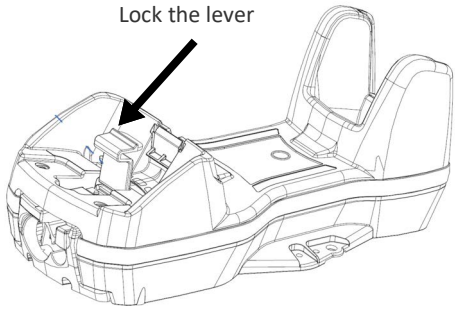


6. With the lever still unlocked, align the base station with the connection module until you see the sphere inside the bigger hole on the right.



7. Move the base station up until the sphere is aligned with the smaller hole, then lock the lever to secure the connection module.





SYSTEM CONNECTIONS

CAUTION: Connections should always be made with power off.

The BC9620 and BC9630 (BC9600 + CM9630 connection module) provide a multi-interface connector (BC9630) / USB cable (BC9620) for connections to a host and a power supply connector for an external power supply.

To unlock the USB cable of BC9620, push the button shown in the picture and extract the cable.

To unlock the multi-interface cable of BC9630, first lift the lever and then extract the cable, as indicated by the label next to the lever.

Figure 2 - BC9620 connection module

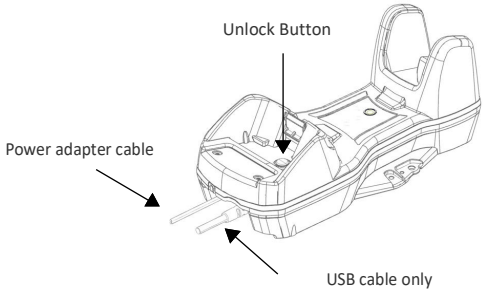
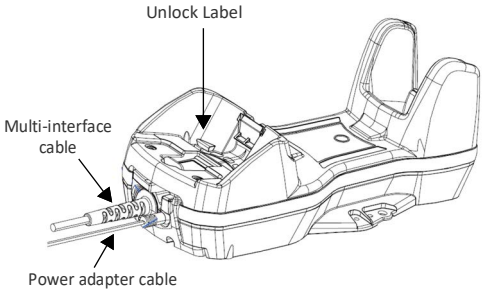
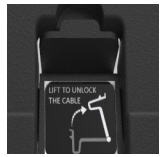


Figure 3 - BC9630 connection module

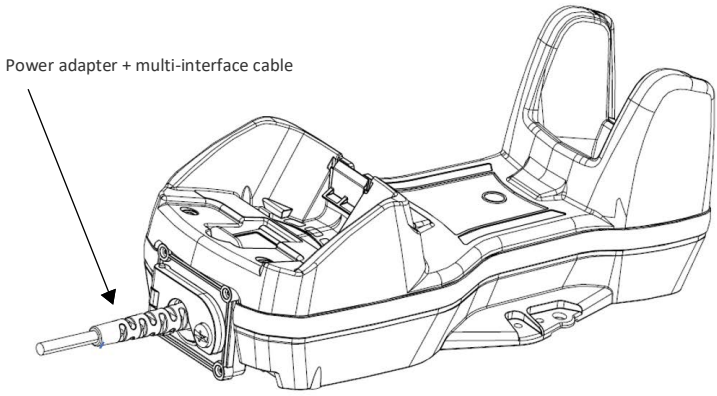


Unlock Label



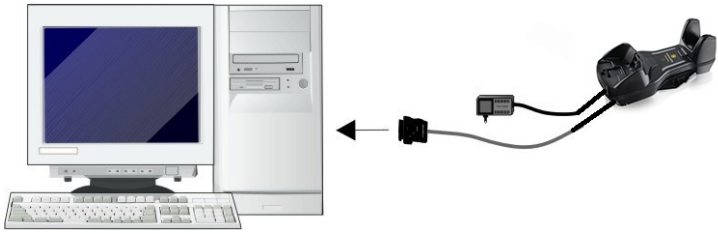
The BC9631 (BC9600 + CM9631 connection module) provides a single multi-interface connector. Power is supplied by the host (USB) or by an external power supply connected to the cable.

Figure 4 - BC9631 connection module



RS232

BC9630 only



BC9631 only

USB

The power supply is optional for BC9630 and for BC9631, the base station can be powered by the USB port. In this case, the full charging of an empty battery will take about 16 hours with an approved USB cable (type A) and 6.5 hours with an approved USB cable (type C) at ambient temperature. For intense usage and/or when the system is shut down during the night, the use of an external power supply is recommended.

The power supply is mandatory for BC9620.

BC9620/BC9630

NOTE: For BC9620 the power supply is mandatory and cannot be charged via USB port.

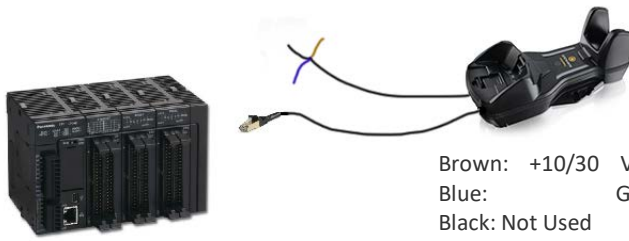
BC9620/BC9631

ETHERNET

BC9680

BC9681
POE connection

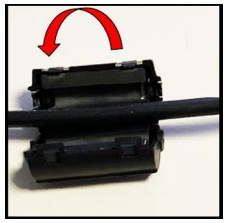
BC9681
External Power Supply



Brown: +10/30 VDC
Blue: GND
Black: Not Used

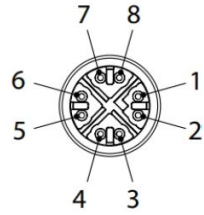
NOTE: When using the BC9680/BC9681 cradles, apply the ferrite provided with the device to the Ethernet cable 5 cm from the cradle. See the example below.

Figure 5 - How to mount a ferrite



BC9681 Power Over Ethernet (PoE) Connection

PIN	NAME	DESCRIPTION	
1	TX+	Transmit Data +	
2	TX-	Transmit Data -	
3	RX+	Receive Data +	
4	RX-	Receive Data -	
5	DC1-	Dc power -	
6	DC2-	Dc power -	
7	DC1+	Dc power +	
8	DC2+	Dc power +	

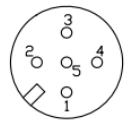


M12 X-Coded Female Ethernet Network Connector

Power can be applied to any of the data pairs according to the IEE 802.3af standard for Alternative A (Mid and Endspan) or Alternative B.

BC9681 External Power Connection

DESCRIPTION	
1 - BROWN 10-30V	
2 - NOT USED (WITH HOLE)	
3 - BLUE GND	
4 - BLACK	
5 - NOT USED (WITH HOLE)	



BC9681 Power Over Ethernet (PoE) Connection

CABLE	PART NUMBER
PWR-IN CONNECTOR M12 5P F. A-Coded	93A050045
CABLE RS232 2M POT COIL IP67[a]	CAB-559
3-POLE STRAIGHT CABLE 3M	95A251290
3-POLE STRAIGHT CABLE 5M	95A251300
3-POLE STRAIGHT CABLE 7M	95A251320
3-POLE STRAIGHT CABLE 10M	95A251340
CAB-ETH-X-RJ ADAPTER FULL GETH-X to RJ45	93A050141
CAB-ETH-X-M01 M12-IP67 GETH-X CAB 1M	93A050122
CAB-ETH-X-M03 M12-IP67 GETH-X CAB 3M	93A050123

a. This cable is also compatible with CM9680

CAUTION: Use only the recommended RS232 cables. If you use a cable that is not recommended, do not connect the power supply to the cable.

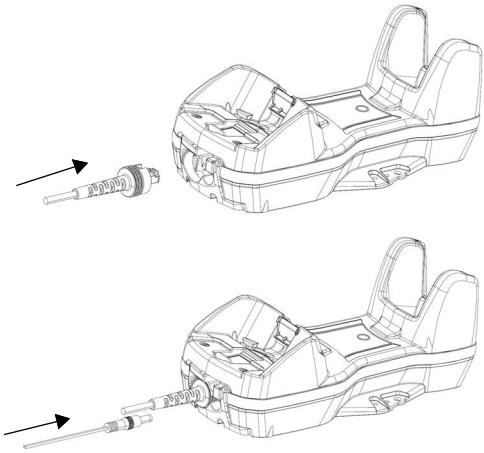
CAUTION: Use only the recommended Ethernet cables or in alternative only high quality shielded cables.

NOTE: For CM9680 use a standard high quality Ethernet cable.

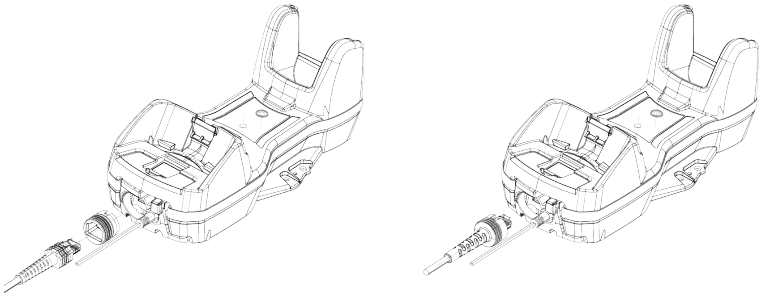
Connecting and Disconnecting the Cables

Connecting BC9630 cables

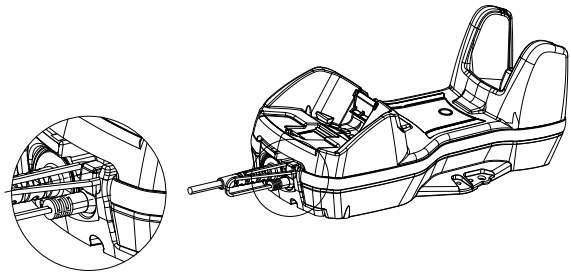
Connect the multi-interface cable first, then connect the power adapter cable. Finally, power on the base station.



In alternative, use the adapter with non-circular RJ45 cables.

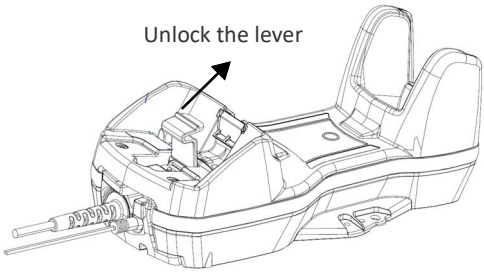


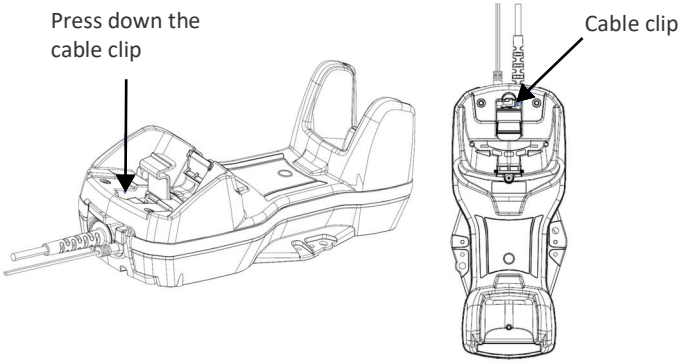
After connecting the power supply cable, secure it on the strain relief as shown in the figure below.



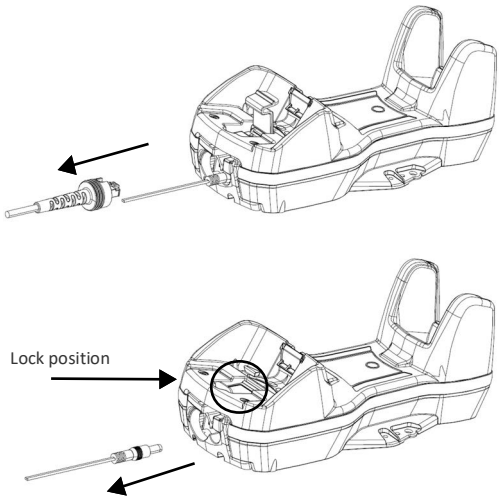
Disconnecting BC9630 cables

To disconnect the cables, power off the base station, unlock the lever and press down the cable clip using a pen or a similar tool.



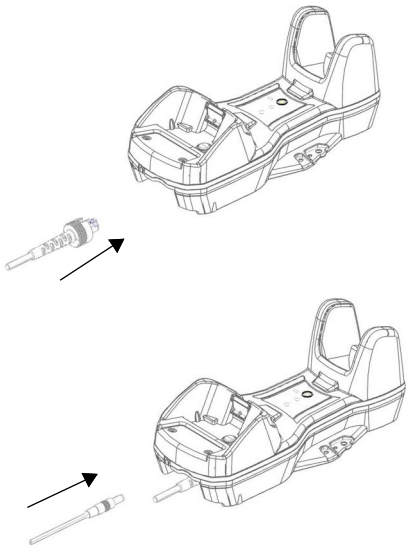


Pull out the multi-interface cable and put the lever back into lock position.



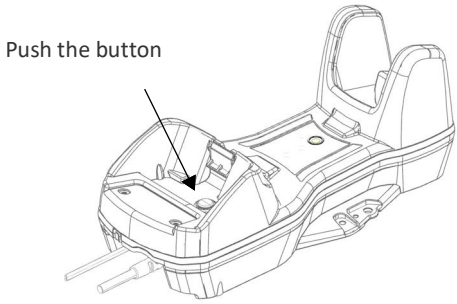
Connecting BC9620 cables

Connect the cable first, then connect the power adapter cable. The cable should click when fully inserted. Finally, power on the base station.



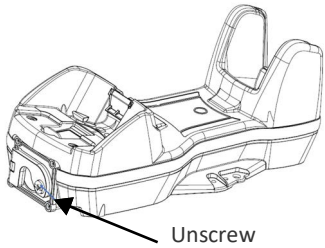
Disconnecting BC9620 cables

To disconnect the cables, power off the base station, push the button and pull out the cables.

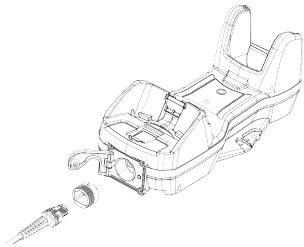

Push the button

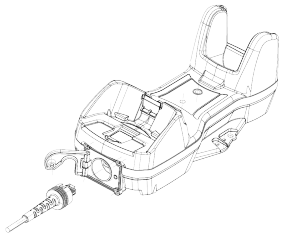
Connecting BC9631 multi-interface cable

1. Unscrew the no-tool screw to open the front door.

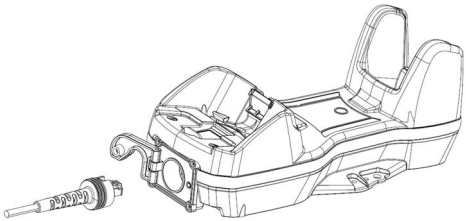


2. Insert the circular RJ45 cable or use the adpter with non-circular RJ45 cables.

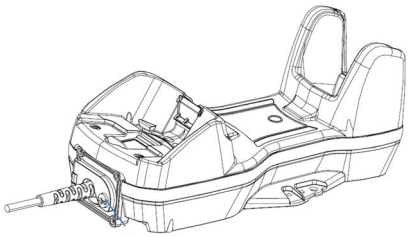




3. Insert the multi-interface cable.



4. Close the door and screw it back.

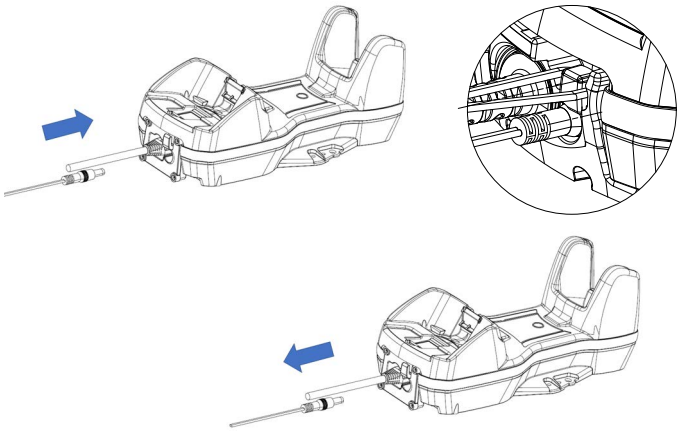


To disconnect the multi-interface cable, open the front door, pull out the cable and screw the front door back.

Connecting BC9680 cables

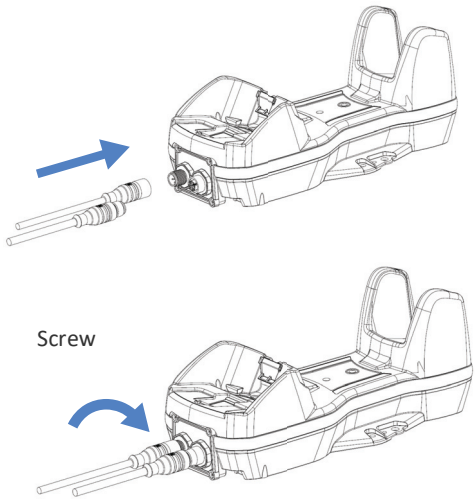
Connect the Ethernet cable and then connect the power adapter cable. Finally, power on the cradle and lock the power cable on the strain relief.

To disconnect the cables, first unlock the power cable and then pull it out. To disconnect the Ethernet cable, use a flat screwdriver to unlock the Ethernet clip.



Connecting BC9681 cables

Screw the cables on the base.



CAUTION: Do not place two base stations too close to each other as shown in the figure below. Keep at least 5cm of distance between them, in order to avoid possible interferences and malfunction of the two wireless charging systems.

CONFIGURATION

BC968X Ethernet Models

BC968x configuration can be performed using the Datalogic Aladdin software configuration program or by reading configuration bar codes with the PowerScan™ PM9600 reader. For more details, refer to the Product Reference Guide.

Non-Ethernet Models

The BC963X configuration can be performed in three ways: by using the Datalogic Aladdin™ software configuration program, by sending configuration strings from the Host PC via the RS232 or USB-COM interface or by reading configuration bar codes with the PowerScan™ PM9600 reader.

Datalogic Aladdin™

Datalogic Aladdin™ (available for free download from the Datalogic website) is a multi-platform utility program that provides a quick and user-friendly configuration method via the RS232/USB-COM or Ethernet interface. It also allows upgrading the software of the connected device (see the Datalogic Aladdin™ Help On-Line for more details).

Serial Configuration

By connecting the BC963X to a PC through an RS232 or USB-COM interface cable, it is possible to send configuration strings from the PC to the BC963X.

Configuration Bar Codes

Link the base station and the reader using the procedures described in the Power- Scan™ PM9600 Quick Reference. Once the pairing is complete, you can configure the base station by reading the configuration bar codes in the PM9600 Quick Reference Guide or PowerScan 9600 Family Product Reference Guide.

TECHNICAL SPECIFICATIONS

The following table contains Physical and Performance Characteristics, User Environment and Regulatory information.

PHYSICAL CHARACTERISTICS	
Color	Black
Dimensions	Height 9.8 cm (3.9'') Length 24.3 cm (9.6'') Width 10.2 cm (4'')
ELECTRICAL CHARACTERISTICS	
Supply Voltage	BC9620: Host power 5-12VDC +/-5% External power 12 VDC +/-5% BC9630: Host power 5VDC +/-5%(*) or 10-30 VDC +/-5% External power 10-30 VDC +/-5% BC9631: Host power 5VDC +/-5%[a] or 10-30 VDC +/-5% BC9680: 10-30 VDC +/-5% BC9681: External power 10-30 VDC +/-5% or POE Injector IEEE 802.3af™ (or superior) compliant.
Power Consumption	max. 1.5 A (charging) max. 500 mA @5 V (charging)
Indicators	Power/Data green LED Reader battery state green/orange fading (see the PowerScan 9600 Product Reference Guide)
Time of Recharge typical @ 25°C ambient temperature	
External Power	typ. 3h 15' fast charge @ 12V typ. 2h 50' fast charge @ 24V
Host Power USB	typ. 15h 15'
Host Power USB type C	typ. 6h
ENVIRONMENTAL CHARACTERISTICS	
Working Temperature Radio Battery Charging	 -20° to +50 °C / -4 to +122 °F 0 to 40°C nominal (+32° to +104 °F) 0 to 35°C ideal (+32° to +95 °F)
Storage Temperature	-40° to +70 °C / -40 to +158 °F
Humidity	90% non condensing
Protection Class	BC9620, BC9630, BC9680: IP40 BC9631, BC9681: IP65
Regulatory	See Regulatory Addendum

a. with approved interface cables

RADIO CHARACTERISTICS			BT
	Star 433 models	Star 910 models	BT models
Frequency working center	433MHz	910MHz	2400 to 2483.5 MHz
Programmable Speed	19.2 kb/s 500 kb/s (default)	36.8 kb/s 500 kb/s (default)	
Typical Range (in open air)	100 m (at 500 kb/s) 150 m (at 19.2 kb/s)	180 m (at 500 kb/s) 230 m (at 36.8 kb/s, frequency hopping) 80 m (at 36.8 kb/s, fixed channel)	100 m
Max number of devices per base station	16		7

NOTE: A radio coverage reduction is expected when the base station is charging a gun.

TECHNICAL SUPPORT

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to (www.datalogic.com).

For quick access, from the home page click on the search icon, and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings.

Hover over the Support & Service menu for access to Services and Technical Support.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

WARRANTY

Datalogic warrants that the Products shall be free from defects in materials and workmanship under normal and proper use during the Warranty Period. Products are sold on the basis of specifications applicable at the time of manufacture and Datalogic has no obligation to modify or update Products once sold. The Warranty Period shall be **three years** from the date of shipment by Datalogic, unless otherwise agreed in an applicable writing by Datalogic.

Datalogic will not be liable under the warranty if the Product has been exposed or subjected to any: (1) maintenance, repair, installation, handling, packaging, transportation, storage, operation or use that is improper or otherwise not in compliance with Datalogic's instruction; (2) Product alteration, modification or repair by anyone other than Datalogic or those specifically authorized by Datalogic; (3) accident, contamination, foreign object damage, abuse, neglect or negligence after shipment to Buyer; (4) damage caused by failure of a Datalogic-supplied product not under warranty or by any hardware or software not supplied by Datalogic; (5) any device on which the warranty void seal has been altered, tampered with, or is missing; (6) any defect or damage caused by natural or man-made disaster such as but not limited to fire, water damage, floods, other natural disasters, vandalism or abusive events that would cause internal and external component damage or destruction of the whole unit, consumable items; (7) use of counterfeit or replacement parts that are neither manufactured nor approved by Datalogic for use in Datalogic-manufactured Products; (8) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.; (9) loss of data; (10) any consumable or equivalent (e.g. cables, power supply, batteries, etc.); or (11) any device on which the serial number is missing or not recognizable.

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DATALOGIC

www.datalogic.com

Datalogic S.r.l.
Via S. Vitalino, 13 | 40012 Calderara di Reno | Bologna - Italy
Tel. +39 051 3147011 | Fax +39 051 3147205

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