DIEBOLD NIXDORF

BA91

LCD TFT Panel Display

User Manual
We would like to know your opinion on this publication.

Please send us a copy of this page if you have any constructive criticism.
We would like to thank you in advance for your comments.
With kind regards.

Your Opinion:

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BA91

LCD TFT Panel Display

User Manual

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Introduction

From Point-of-Sale To Point-of-Service

With the BA91 you are using an ergonomically and customer-friendly cashier's workplace.
Equipped with a sleek modern bezel free design and robust aluminum housing, the BA91 features projected capacitive touch technology. For the use as customer display, there is also a non-touch version available.

The BA91 features the unique Diebold Nixdorf PanelLink2™ interface. This allows for operation of the displays via a single cable solution. In addition, the screen also offers standard interfaces such as DVI-I or USB-B. Instead of using a standard power supply with 12V DC jack, a Powered-USB cable can be used.

The display can be applied in all trade market segments like specialist retailers, department stores, self-service stores, petrol stations or in restaurants. There is indeed a great deal of scope for implementing the display.

They can be used, for example, as:

- a point-of-sale terminal
- an ordering terminal
- an information terminal
- a desk terminal.

The low-energy, flicker-free and radiation-free color monitor of the BA91 is a LCD in TFT-technology (Thin Film Transistor).

Therefore, it is well suited for multimedia applications as it offers brilliant color representation, an excellent contrast ratio and a high display speed.

Advantages At a Glance

- Low footprint
- Auto scaling of the screen
- Flicker-free
- Very good contrast ratio, adjustable sharpness, width, phase, color temperature and brightness via OSD menu
- LCD TFT technology
- Digital and Analog interface
- Simple installation via plug & play feature
- Mounting VESA 75 standard

About This Manual

This manual informs you about everything you might need to know for the installation (software and hardware), the operation and the maintenance of your BA91.

Some parts of this book require familiarity and experience in working with operating systems and installation and configuration procedures.

Notes in the manual are marked by this symbol.

This symbol is used for warnings.

LCD TFT Panel Display

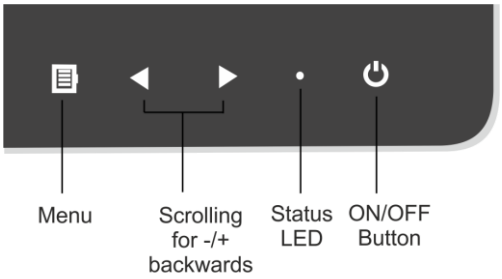
BA91

The LCD TFT panel display is a 10.4-inch flat panel display which is absolutely flicker-free. It is designed for a resolution of max. 1024 x 768 pixels.

BA91 with standard cable cover

BA91 with cable cover type 2 (optional)

Operator Panel



USB Interface

USB (type B) connector as upstream USB port for touch functionality.

On Screen Display (OSD)

Menu

Via the menu you can set the brightness, contrast and color.

Scrolling

The arrows serve for scrolling forwards or backwards in the menu items.

LED

dark	Power off
green	Power on
orange	Power save mode the LED lights in the standby mode
red	Out of Range

ON/OFF Button

With this button you can switch the display on or off.

OSD and power button Lock/Unlock

There are two possible methods:

- Hardware method

When there is no active OSD Menu, press-and-hold Menu button for more than 5 seconds to lock/unlock the OSD function.
The power button can be lock/unlock through the OSD Menu.

- Software method

Using ‘DDC control’ utility provided by Diebold Nixdorf, OSD function and power button can be lock/unlock remotely through the software command.

Projected Capacitive Touch Screen

General Information

The use of projected-capacitive touch screens has all the benefits a normal capacitive touch screen has:

- fast processing of touch information
- high sensitivity (use with hands, conductive pencils and also with thin gloves)
- high resolution
- improved legibility and display brightness due to optimal light transmission

In addition the technology of projected-capacitive touch screens is characterized by significant higher robustness and stability. As most of the surface contaminations do not cause an interference of the touch screen, this technology can be used in public or under severe environmental conditions.

Instructions for Using the Touch Screen

The touch screen responds to the lightest touches. The touch with only one finger is like the use of the left mouse button. The use of the touch screen with two fingers generates a zoom if the fingers are brought together or pulled apart. With a circular motion of the fingers the element on the display can be rotated. This function must be supported by either the operating system or by the application.

Cleaning Instructions

Always turn off the system before cleaning

The glass surface of your Touch Screen should be cleaned with a mild, abrasive free, commercially available glass cleaning product. All pH neutral materials (pH 6 to 8) are good for cleaning. Cleaners with pH values 9 to 10 are not recommended. Cleaning with water and isopropyl alcohol is possible as well. Do not use sol vents containing acetic acid. Use a soft, fine-meshed cloth to clean the surface. Dampen the cloth slightly and then clean the screen.

A wrong maintenance may cause damages to the screen, which are not covered by guarantee or warranty.

Installing and Securing

Unpacking And Checking the Delivery Unit

Unpack the parts and check to see whether the delivery matches the information on the delivery note. The delivery comprises the respective screen module. Data cables, necessary for operation, can be ordered separately. If damage has occurred during shipping or if the package contents do not match the delivery note, immediately inform your Diebold Nixdorf sales outlet.
Transport the device only in its original packaging (to protect it against impact and shock).

Installing the display to a stand

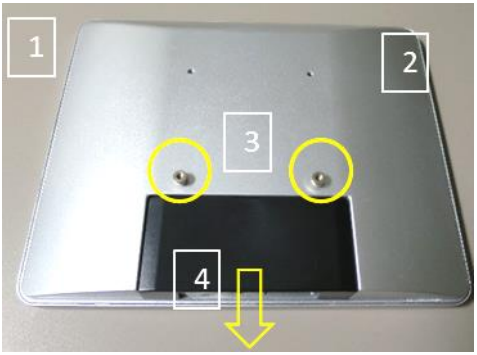
Take the stand and the monitor out of the packaging. For installation you will need a Torx screwdriver to loosen and tighten the screws!

Preparing the stand

From the stand:

1. Remove the VESA cover.

Preparing the display

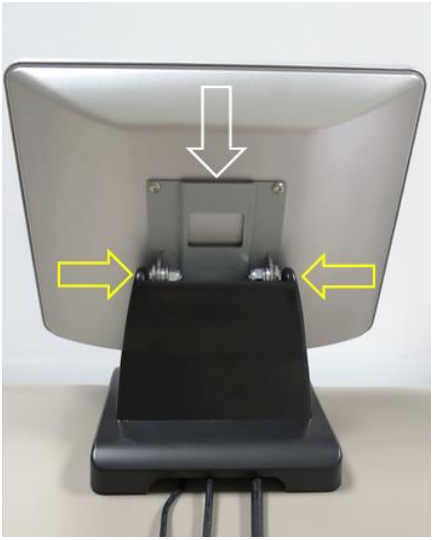


1. Place a piece of protection sheet on a flat surface e.g. a table.
2. Lay the display face down on the protection sheet.
3. Tighten the two screws half way through.
4. Remove the cable cover at the bottom of the display.

5. Plug in cable and fasten the two screws to fix cable with the display.

6. Place back the cable cover at the bottom of the display.
7. Pull the cable through the opening of the cable cover.

Installing the stand



1. Bring the display into a position above the stand
2. Place the screws (that were previously tightened halfway through) to the two U-shaped grooves on the frame of the stand.

3. Tighten the two screws to secure the display to the stand.

4. Place in the VESA cover.

When uninstalling the stand always make sure that all cables are disconnected.

Connector panel (BA91 pc-Touch)

The following sockets are located under the bezel of the display:

DC-Power Jack (12V)

USB-B

DVI-I / PLINK2™

Power Jack	Current supply for the screen via external power supply (12V)
USB-B	USB connection to the PC system
DVI-I / PLINK2™	DVI-I / PLINK2™ for video/data transfer between the system and the TFT display

If the power is not supplied by a BEETLE system, by a PoweredUSB or PLink2™, you have to use you have to use an external power supply unit.

Only UL Listed LPS (Limited Power Source) power supplies can be used.

By connecting the system's cable the screen will be switched on.

Connector panel (BA91 non-Touch)

The following sockets are located under the bezel of the display:

DC-Power Jack
(12V)

DVI-I / PLINK2™

Power Jack	Current supply for the screen via external power supply (12V)
DVI-I / PLINK2™	DVI-I / PLINK2™ for video/data transfer between the system and the TFT display

If the power is not supplied by a BEETLE system, by a PoweredUSB or PLink2™, you have to use an external power supply unit.

Only UL Listed LPS (Limited Power Source) power supplies can be used.

By connecting the system's cable the screen will be switched on.

Connecting the display

Before connecting cables switch off the system and disconnect it from the main supply.

1. Push down the cable cover to release it and slide the cover out of the guide.
   The connector panel is now accessible.

2. Move the DVI cable, power cable and USB cable through the holder and plug the connector into the jack. Fix the connector by rotating clockwise the knurled screws.

   Lay the necessary cables inside for example USB A cable and connect the plug.

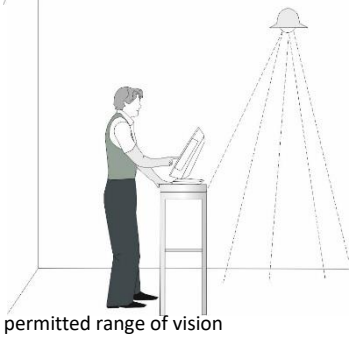
Make sure that cables are not secured by a lock, are loosely inserted into the strain relief.

3. Replace the cable cover.
4. Pull out the cable through the opening.

Ergonomic Terminal Workplace

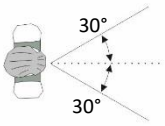
Please observe the following when setting up your terminal workplace:

Avoid direct glaring and reflective glaring. Use the screen only in a controlled luminance surounding. Install the device with a viewing directi on that is parallel to the windows.



Avoid reflective glaring caused by electric light sources.

permitted range of vision

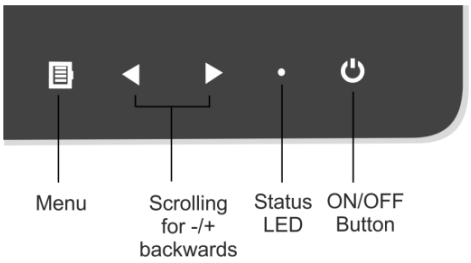


preferred range of vision

Position the screen within a preferred and permit ted range of vision, so that you can look vertically onto the screen.

On Screen Display (OSD)

A set of 4 buttons is located at the operator panel module.



Pressing the menu button will activate the OSD.

Depending on the selected function, a sub- menu option will be available for a selection on the same screen.

There are two ways to exit the OSD menu:

- via exit or
- wait for the OSD to time-out (saves changes and exit).

The adjustments will be saved in each way.

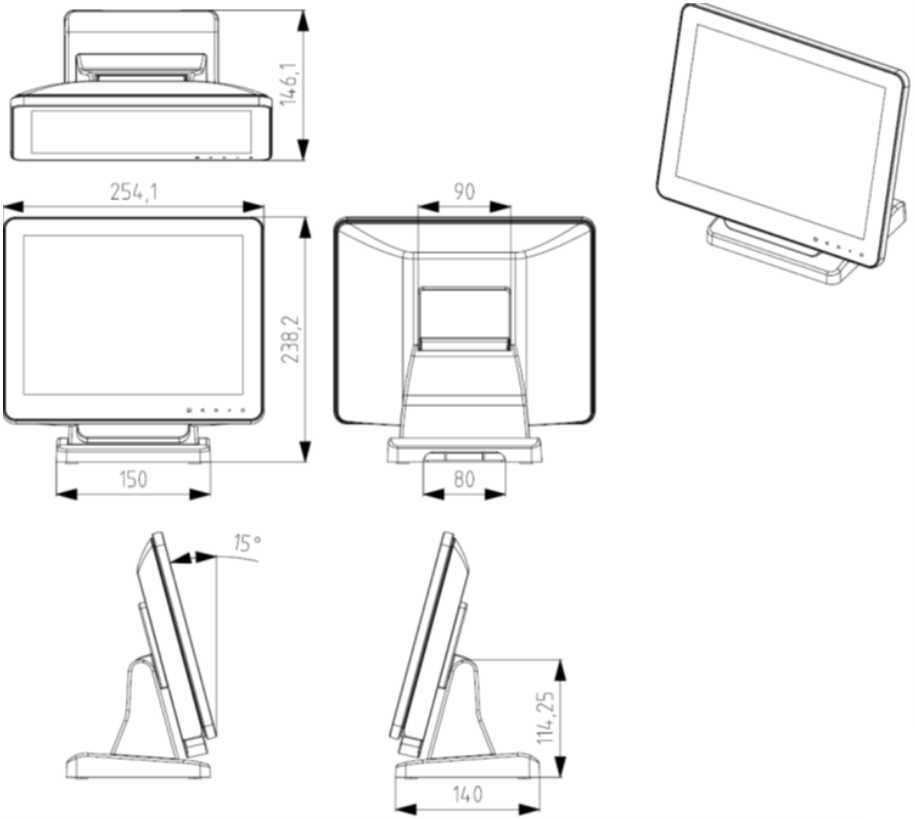
There are a number of parameters that can be set via the OSD menu.

Technical Data

Model		BA91: pc-touch	BA91
Touch panels		Projected Capacitive Touch Screen	No Touch, Protective Glass
Dimensions	Diagonal Screen size	10.4“ (26.42cm)	
	Active screen size (horizontal x vertical)	210.4mmx157.8mm	
	Cable length	up to 5m	
	Housing	254.1mmx206.7mmx33.5mm	
Weight	w/o base	1.10kg	
	With base	1.75 kg	
Climate class		IEC 721 3/3 Class 3K3	
Operating temperature		+5 °C- + 40 °C	
Humidity		5%-85% Absolute humidity $1g/m^3$ - $25g/m^3$ Condensation is not permitted	
Frequencies	Horizontal	48.4KHz	
	Vertical	60Hz	
Resolution	Horizontal	1024 pixel	
	Vertical	768 pixel	
	Color depth	Up to 16.7 Mio.	
Interface	internal	LVDS	
	external	PLINK2, DVI-I	
Reading Angle,	right/left	+/- 70°	
	top/bottom	+/- 70°	
Brightness	Projected Capacitive	260 cd/ m^2	-
	Non Touch	-	270 cd/ m^2
Backlight		LED	

Dimensions (mm)

BA91



Projected Capacitive Touch Screen

Resolutions	Horizontal	16k
	Vertical	16k
LCD Technology		Analog capacitive
Surface		Anti-glare
Data transfer		USB

Power Consumption BA91

Max.	7.5W
Typ./Factory Settings	6.0W
Standby	<=0.5W
Soft off	<=0.5W

Manufacturer’s Declaration And Approval

General Authorization

This device complies with the requirements of the EEC directive 2014/30/EU with regard to “Electromagnetic Compatibility” and 2014/35/EU "Low Voltage Directive" and RoHS directive 2011/65/EU.

Therefore, you will find the CE mark on the device or packaging.

FCC-Class B Declaration

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense. Modifications not authorized by the manufacturer may void user’s authority to operate this device.

CAN ICES-3 (B)/NMB-3(B).

BSMI (EMC for Taiwan)

The device complies with the requirements of the BSMI (Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs) directive CNS13438 with regard to “Electromagnetic compatibility” with the limits for a Class B product.

Tested Safety

The BA91W has been awarded the cUL- and UL-symbol.

User Information

Repair work on the devices should only be carried out by authorized and specially trained personnel. Improper repairs will lead to the loss of any guarantee and liability claims.

Extension boards with electrostatically endangered components can be identified with this label.

Safety Information

This device conforms to the corresponding safety regulations for information technology devices, including electronic office machines for use in the office environment.

- If the device is moved from a cold environment to a warmer room where it is to be operated, condensation could occur. The device must be completely dry before being put into operation. Therefore an acclimatization time of at least two hours should be accounted for.
- Lay all cables and supply lines so that nobody can tread on them or trip over them.

- Data cables should neither be connected nor removed during electrical storms.
- Protect the device from vibrations, dust, moisture and heat, and only transport the device in its original packaging (to protect it against impact and blows).
- Take care to ensure that no foreign objects (e.g. paper clips) or liquids can get into the inside of the device, as this could cause electrical shocks or short circuits.
- In case of emergencies (e.g. damaged housing, liquid or foreign objects getting into the device), the device should be switched off immediately, the mains plug of the BEETLE or PC should be removed, and the Diebold Nixdorf customer service should be contacted.

If the LCD display element is broken and the liquid crystal solution leaks out of the display and onto your hands, clothing etc., wash your hands or clothing immediately with soap or alcohol, holding them under running water for at least 15 minutes. If the liquid comes into contact with your eyes, please consult a doctor immediately.

Generally you should connect IT-devices only to power supply systems with separately guided protective earth conductor (PE), known as TN-S networks. Do not use PEN conductors! Please also observe the recommendations of the norm DIN VDE 0100, part 540, Appendix C2, as well as EN50174-2, §5.4.3..

Warranty

Diebold Nixdorf guarantees generally a warranty engagement for 12 months beginning with the date of delivery. This warranty engagement covers all those damages which occur despite a normal use of the product.

Damages because of

- improper or insufficient maintenance,
- improper use of the product or unauthorized modifications of the product,
- inadequate location or surroundings

will not be covered by the warranty.

For further information of the stipulation look at your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement.

Please order spare parts at the Diebold Nixdorf customer service.

Instructions For Maintenance

Clean your display regularly with an appropriate surface cleaning product. Make sure that the device is switched off, connector cables are unplugged and that no moisture is allowed to get into the inside of the device.

Please observe the maintenance and cleaning instructions for each of the components. These instructions can be found in their respective chapters.

Recycling

Environmental protection does not begin when time comes to dispose of the display; it begins with the manufacturer. The compact display is manufactured without the use of CFCs and CCHS and is produced mainly from reusable components and materials.

The processed plastics can, for the most part, be recycled. Even the precious metals can be recovered, thus saving energy and costly raw materials. Please do not stick labels onto plastic case parts. This would help us to re-use components and material.

You can protect our environment by switching on your display only when it is actually needed. If possible, even avoid the stand-by-mode as this wastes energy, too. Also switch your display off when you take a longer break or finish your work.

There are still some parts that are not reusable. Diebold Nixdorf guarantees the environmentally safe disposal of these parts in a Recycling Center, which is certified pursuant to ISO 9001 and ISO 14001.

So don’t simply throw your device on the scrap heap when it has served its time, but take advantage of the environmentally smart, up-to-date recycling methods!

Please contact your competent branch or the Recycling Center Paderborn (for European countries) for information on how to return and re-use devices and disposable materials under the following mail address:

Email: info@Diebold-nixdorf.com

We look forward to your mail.

Supplier’s Declaration of Conformity

Product Description: LCD Monitor
Model: BA90, BA90 /pc-touch, BA91W, BA91W /pc-touch

Party issuing Supplier’s Declaration of Conformity
Diebold Nixdorf Singapore PTE. LTD.
151 Lorong Chuan New Tech Park #05-01 A/B
Singapore 556741

Phone: +65 6747 3828

Responsible Party – U.S. Contact Information
Diebold Nixdorf
5995 Mayfair Road
N. Canton, OH 44720 / USA

Phone: +1 330 490 5049

FCC Compliance Statement (for products subject to Part 15)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Abbreviation Index

CE	European Symbol of Conformity
cUL	Canadian Registration (Recognized by UL)
DIN	Deutsche Industrie Norm (German Institute for Industrial Standards)
DVI-I	Digital Visual Interface Integrated
EN	Europäische Norm (European Standard)
IEC	International Electro technical Commission
ISO	International Organization for Standardization
LCD	Liquid Cristal Display
LED	Light Emitting Diode
LVDS	Low Voltage Differential Signal
OSD	On Screen Display
TFT	Thin Film Transistor Technology (LCD Technology)
USB	Universal Serial Bus
UL	Underwriters Laboratory (standards)
VDE	Verband Deutscher Elektrotechniker (German Electricians Association)
VESA	Video Electronics Standard Association
VGA	Video Graphics Array

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