BEETLE /iSCAN EASY eXpress+

Self-Checkout System

User Guide (January 2018)

Please let us know your opinion of this information document.

Simply send us a copy of this page if you would like to provide constructive criticism in relation to one of the following areas:
- Contents
- Design
- Product

Many thanks in advance for your suggestions.
Yours sincerely,

Diebold Nixdorf
Wohlrabedamm 31
13629 Berlin, Germany

_____

Your opinion

Contents

1   Introduction

Customers favor stores that enable them to complete their retail journeys rapidly.

With BEETLE /iSCAN EASY eXpress by Diebold Nixdorf, retailers have the opportunity to use it as a self-service checkout solution for speedier customer transactions and shorter lanes, or as a kiosk solution for order taking, service, additional product information or ticket and lottery sales. The solution can be flexibly configured to meet the requirements of a variety of store types.

Guided by an intuitive interface and automated audio-visual prompts, customers can rapidly scan, pack and pay for their items themselves

2   Scope of document

Notes are marked with this symbol.

Identifies an action that requires caution.

Responsibility for all technical and special requirements for installing the device lies with the customer.

This device may only be installed and connected by employees with the appropriate technical training.

The safety instructions given in this document must be strictly followed when handling the device.

3   Other documentation

Product	Document Type	WN Intranet
TH230+ printer	User Manual	Yes
	Service Guide	Yes
	Programmer Reference Guide	Yes
TSF 15"/19" display	User Manual	

4   Warranty

Diebold Nixdorf (WN) generally guarantees a warranty of 12 months beginning on the date of delivery. This warranty covers all defects that occur despite normal use of the product.

Defects due to

- improper or inadequate maintenance,
- improper use or unauthorized modification of the product or
- an unsuitable installation location or inadequate environment

are not covered by the warranty.

Other information in relation to regulations can be found in your contract.

None of the wear parts of the product is included in the warranty. Details in relation to the warranty provisions can be found in your contract documentation.

5   Important notes

Devices supplied by Diebold Nixdorf comply with the relevant safety regulations for data processing and information technology equipment, including electrical office equipment for use within an office environment.

Whenever work of any kind is carried out on the device, as well as when data cables are plugged in and unplugged, the device must be completely disconnected from the power supply.

The device should only be used with closed doors.

- The power sockets of the building installation must be easy to access.
- The device may only be repaired by authorized technicians.
- Unauthorized opening of the housing or inexpert repairs can result not only in considerable personal injury, but will also invalidate your warranty and liability protection.
- Always consult the available documentation before performing any work on this device.
- If this device is brought from a cold environment into a heated operating room, condensation may occur. The device must be completely dry before being operated. An acclimatization period of at least two hours must therefore be observed.
- Always lay the supply leads and cables in such a way that they cannot be stepped on or tripped over.
- Exchange damaged cables immediately.
- In order to completely disconnect the device from the power supply, use the circuit breaker in the fuse box or building installation.
- Sensitive data cables must not be marked.
- Make sure that no objects (such as paper clips) can reach the interior of the device, since electrical shocks or short-circuits could result.
- To avoid overheating, ensure that the device is adequately ventilated.

- Data cables should not be plugged in or unplugged during a storm.

- Keep the device away from vibrations, dust, humidity and heat.

- Ensure that any used parts are disposed of in an environmentally-friendly manner.

- In case of an accident (such as damaged housing, entry of liquids or foreign objects), switch off the device and use the circuit breaker to completely disconnect the device from the power supply.

- The device and other information technology hardware should only be connected to a power supply system using a separate protective earth (PE) wire. This type of power supply system is referred to as a TN-S network. Do not use PEN conductors.
  Also follow the recommendations set out in DIN VDE 0100 Part 540, Appendix C2 as well as EN50174-2, Section 5.4.3 (www.DIN.en). This will help avoid malfunctions.

- National Electrical Code ANSI/NFPA 70 (NEC)

- Canadian Electrical Code, part I, CSA C22.1 (CE Code)

- The device should only be transported in its original packaging (to protect it against shock and impact).

- Always keep the ventilation slots free of obstruction to ensure adequate air circulation and avoid overheating.

- If the device comes with a lithium battery, make sure the battery is replaced by an equivalent type. Otherwise there is a risk of explosion! Lithium batteries must only be replaced by identical types or by other types recommended by the manufacturer.

- The batteries must be disposed of according to local regulations for the disposal of hazardous waste.

5.1   Connecting peripherals

Devices should only be connected using shielded cables in order to ensure compliance with international regulations and standards for radiation emissions and to achieve a high immunity to external interference.

6   Scope of delivery

Unpack the device and make sure that the delivery is complete.

In case of transport damage, discrepancies between the contents of the package and the packing list or defects, inform your suppliers immediately or the Diebold Nixdorf sales office. Make sure to also keep the packing list to hand to indicate the product name and the serial number of the device.

6.1   Serial number

You will find the serial number on the label, which is attached to the right side the housing

7   ESD (Electrostatic Sensitive Devices)

Components with electrostatic sensitive elements (ESD) can be marked by this label.

Note the following information when installing ESD components or modules. This information applies to all components with ESD:

- Make sure that the device is de-energized before connecting, removing or installing components with ESD.

- Always use the antistatic equipment.

- While working with ESD, discharge yourself permanently by means of an ESD wristband or a suitable grounding cable, which is connected to the protective conductor of a socket or other grounded object.

- Place all components with ESD on a suitable antistatic surface.

- Tools and equipment must be free of static discharge.

- Handle components with ESD only by their edges and do not touch any component parts.

- Never touch pins or conductors on an electrostatically sensitive component.

8   Components

8.1   Exterior view

1	Pole Light	6	Printer
2	Display 19" (optional 15")	7	EFT-holder with EFT* (example only)
3	Swipe Card Reader or Waiter lock (module not visible - only with 15" display)	8	Waiter Lock (integrated, optional)
4	Lock	9	Article Surveillance System
5	Scanner		

* It may be connected ETFs with 12V for max. current consumption of 1.1A (permanent).

1.1   Interior view
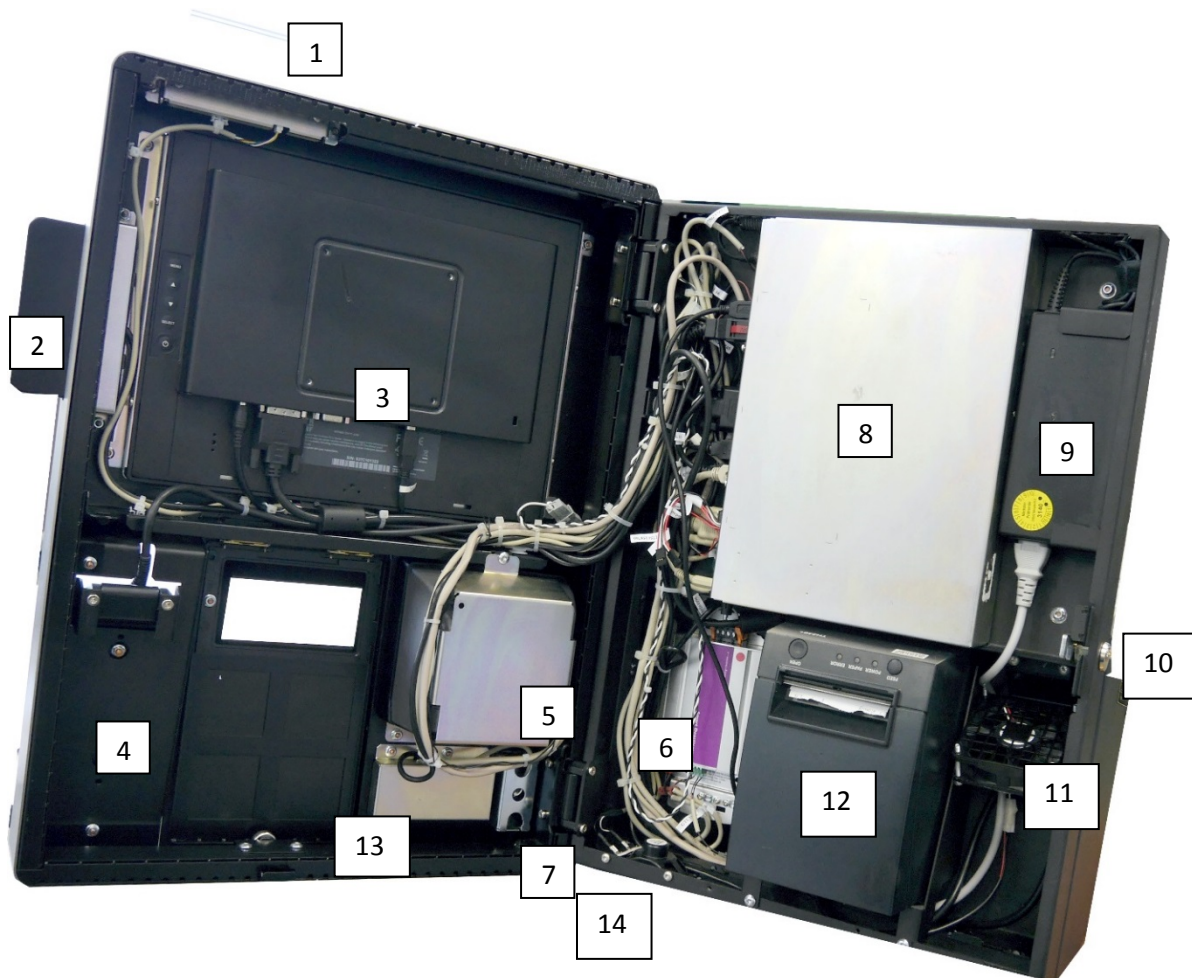
1	Pole Light (optional)	8	PC
2	Swipe Card Reader or Waiter Lock (only with 15" Display)	9	Power Supply
3	Display 15" (optional 19")	10	Lock
4	EFT*-holder	11	Fan
5	Scanner	12	Printer
6	Article Surveillance System	13	NFC (optional)
7	Waiter Lock integrated (optional)	14	Loud Speaker (optional)

* It may be connected ETFs with 12V for max. current consumption of 1.1A (permanent).

2   Opening the device

Unlock the system with the key (siehe arrow).

Open the door to the left.

9   Start/Shut down of the system

9.1   Start the system

⚠️ An IEC60127-compliant 16A fuse (breaking capacity of 1500A) must be part of the building installation.

The power supply must be equipped with separately routed protective conductors. This type of power system is referred to as a TN-S network. Do not use PEN conductors!

ℹ️ The system operates automatically when the power plug is plugged into the building installation.
If this does not work, please open the device (see Section "Opening the device") and press the ON/OFF button on the PC in order to switch on the system.

If the display do not light up, press the power button on the panel of the display (see chapter "Display Settings") to switch it on.
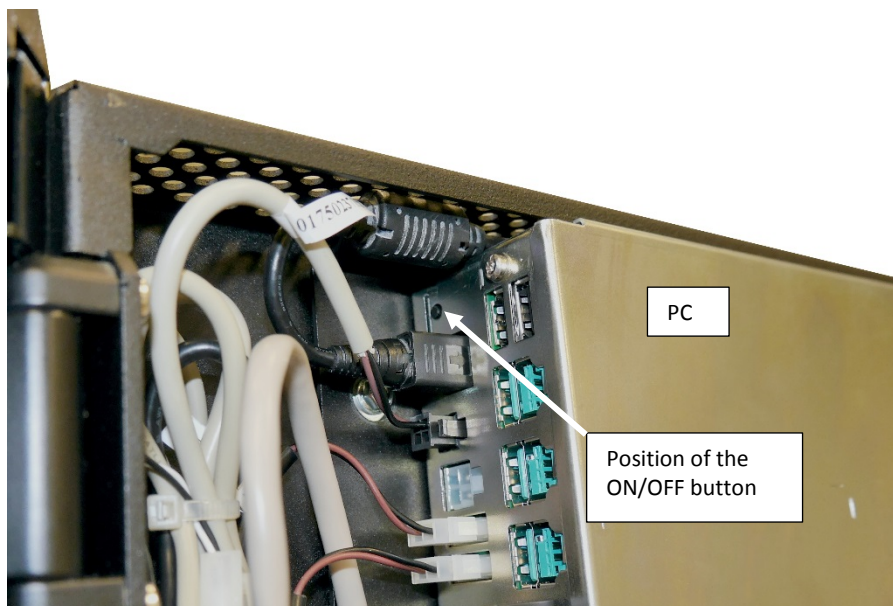
9.2   LAN port

Make sure that the LAN cable is properly connected.

9.3   Shut down the kiosk

Shut down the device by closing the application.

9.4   Restart the system after it has been shut down

Press the ON/OFF button on the PC to start the system.
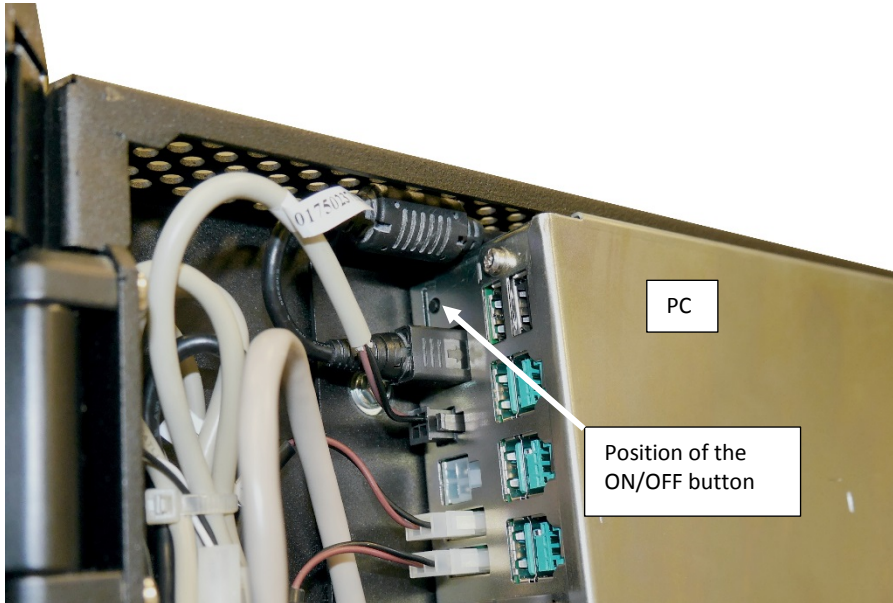
9.5   Disconnecting the device from the power supply

To completely disconnect the kiosk from the power supply, remove the plug from the power socket of the building installation.

10   Display Settings

Panel

10.1   Scrolling

Use the arrows to scroll forward and backward in the menu items.

10.2   LED

Dark	Switched off
Green	Switched on
Orange (not flashing)	In Sleep mode, the LED lights up in standby mode
Red	Out of reach

10.3   On Screen Display

Via the menu you can set the loudness, brightness, contrast and colour.

You activate the OSD via pressing the menu botton.

Depending on the selected function, a submenu with further functions opens.

There are two ways to exit the OSD menu:

- via exit or
- by waiting for the time of the OSD application out (changes will be saved and exit).

The settings are stored in both ways.

OSD Symbol	Menu off status	Menu on status
Menu	Menu appear	Menu disappear/return to main item
▲	Brightness	Main item select up/ Adjust up
▼	Contrast	Main item select down/ Adjust down
Select	Enter/Select sub-item function	
⏻	Power On/Off	

10.4   Activate OSD

- Press the "MENU" button to pop up the "on-screen menu" and press "Up" or "Down" button to select among the five functions in the main menu.

- Choose the adjustment items by pressing the "Enter " button.

- Adjust the value of the adjustment items by pressing the "Up" or "Down" button.

- With the OSD menu on screen, press " Menu" button to return main menu or exit OSD.

- The OSD menu will automatically close, if you have left it idle for a pre-set time.

- To Lock the OSD / Power menu buttons, please follow the instructions below.
  (Please note: the monitor has to be turned ON with a valid signal pre-set)

    o   Press "Menu" key , the OSD menu will pops upon display.

    o   Press and hold the "Menu" key again with the OSD menu on the screen, the OSD menu will disappear. Then press the "Power" key 1 time while the menu key is still being pressed. The "Lock/Unlock" menu will appear for 3 seconds.

    o   Use the "Enter" key to select OSD or Power setting then set at "Lock" by pushing the "UP" or "Down" button.

    o   When the "UP" or "Down" button is released, the previous setting will be saved and exit the "Lock/Unlock" menu automatically.

- To Unlock the OSD / Power menu buttons, please follow the instructions below.
  (Please note: the monitor has to be turned ON with a valid signal pre-set)

    o   Press and hold the "Menu" key then press the "Power" key simultaneously, the "Lock/ Unlock" menu will appear for 3 seconds.

    o   Use the "Enter" key to select OSD or Power setting then set at "Unlock" by pushing the "UP" or "Down" button.

    o   When the "UP" or "Down" button is released, the previous setting will be saved and exit the "Lock/Unlock" menu automatically.

Please note

- When the OSD Lock function is selected, this indicates that all the buttons except "power"button are now disabled.

- When the Power Lock function is selected, this indicates that the power key is disabled; user can not to turn off the monitor by "Power" key.

11   TH230+

11.1   Safety regulations

⚠ The printer must only be de-installed and repaired by a technician who is certified by Diebold Nixdorf.

ⓘ Use recommended or high-quality paper in order to ensure high-grade printing and normal service life.

ⓘ Make sure there is recording paper in the printer before printing, as otherwise this could damage the print head and print roller.

⚠ Do not touch the printer's cutter and tear bar.

⚠ The thermal head is ESD-sensitive. Do not touch either the print area or connection parts in order to avoid damage.

⚠ The print head is a thermocouple, which reaches a high temperature during or immediately after printing; therefore do not touch the print head and its peripheral parts for safety reasons.

11.2   Control panel

FEED

The printer draws in paper for a line (1/6 inch) when you press and release this button.

When you press and hold this button, the printer continues to draw in paper until the button is released.

The button can be locked by the application software and is then non-functional.

POWER

All LEDs off	Power is not stable
Green POWER LED lighting	Power is stable

PAPER

Yellow PAPER LED off	Paper is inserted correctly.
Yellow PAPER LED lighting	End of paper roll almost reached.
Yellow PAPER LED and red ERROR LED lighting	Out of paper almost reached.

ERROR

| Red ERROR LED off	Normal status
Red ERROR LED lighting	Not ready. Printer cover is not closed or in combination with the yellow PAPER LED lighting, out of paper reached
Red ERROR LED flashing	An error has occurred. Switch the printer off and then on again. If this still does not work, consult your Technical Support.

LED overview	POWER green	PAPER yellow	ERROR red	Meaning
	off	off	off	No power
Power	on			Power on
	flashing			Consult Technical Support if necessary
		off		Check paper is loaded correctly
Paper		on		Paper almost empty
		on	on	Paper empty
Error			flashing	Consult Technical Support if necessary
			on	Cover not closed

11.3   Insert the paper roll

There is a flap above the printer in the housing to cover the printer.

Press the button on the system housing below the printer (see arrow).
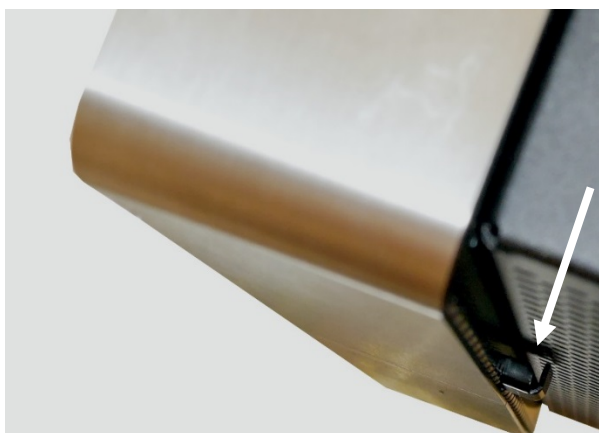
The flap opens upward. Fold up the flap.

Press the button on the system housing below the printer (see arrow).

Press the OPEN button to open the printer cover.

Unwind the outer layer (winding) of the paper roll.

Insert the paper roll. Place the unwound paper over the front edge of the printer.

Close the printer cover and the flap of the system housing.

11.4   Remove the Paper Roll

Proceed as described above.

Remove the paper roll and any remaining bits of paper from the printer compartment.
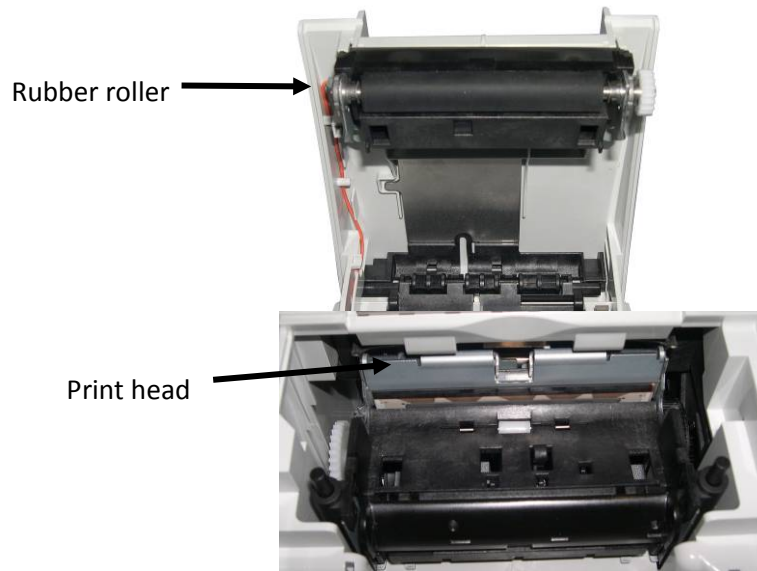

Clean the print head and rubber roller if necessary (see next section).

⚠ The print head is a thermocouple, which reaches a high temperature during or immediately after printing; therefore do not touch the print head and its peripheral parts for safety reasons.

11.5   Cleaning the print head

Clean the print head and the rubber roller at least every three months. Clean both items more frequently in case of intensive use of the printer in order to ensure consistent print quality.
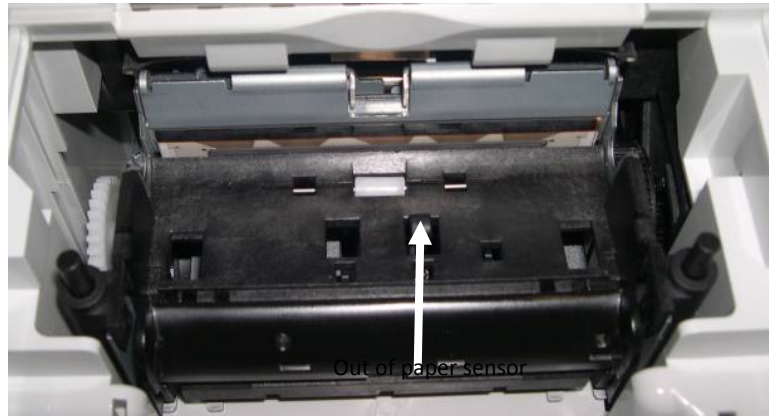
Rubber roller

Print head

Open the printer cover and remove the paper roll; the rubber roller and the print head mechanism are now visible.

⚠️ Allow the print head to cool before cleaning.

Clean the print head and rubber roller using a soft, lint-free cloth dampened in pure isopropyl alcohol (e.g. ISOPADS, which can be ordered from Diebold Nixdorf, replacement part number *01750104065*).

Examine the print head. If there is still dirt remaining, repeat the cleaning process. The relevant and important thermocouple zone can be identified by the thin line that is criss-crossed by wires.

Out of paper sensor

⚠ Take care not to damage the out of paper sensor when cleaning the print head.

⚠ Do not touch the rubber roller with your fingers.

Rotate the rubber roller by hand as you clean using the gear wheel on the side; make sure to clean the entire roller.

⚠ Premature malfunctions may occur if the print head is not cleaned properly. Wait until the isopropyl alcohol has evaporated.

ⓘ Insert the (new) paper roll and close the cover. Print a test page (see application manual) and check the print quality (density, alignment and uniformity).

12   Cleaning instructions

12.1   General details

- **The device** should always be **switched off** prior to cleaning.

- The glass surface of the touchscreen should be cleaned with a mild, non-abrasive commercial glass cleaner. Incorrect care may damage the screen; this is not covered by the warranty.

- All pH-neutral materials (pH 6 to 8) are suitable for use as cleaning agents. Cleaners with pH values of between 9 and 10 are not recommended. Cleaning with water and isopropyl alcohol is likewise possible.

- **Do not use** acetic acid solvents.

- Clean the surface using a soft, fine-meshed cloth. Dampen the cloth slightly and then clean the screen.

12.2   Housing

Clean the housing using a vacuum cleaner or duster.

12.3   Permitted cleaning materials

The products listed below can be ordered from the Diebold Nixdorf branch office or your Diebold Nixdorf sales partner.

Product name	Order number	Explanations
Cleaning cloths	01750097332	For all plastic and metal surfaces, not suitable for TFT
TFT, screen clean wipes	01750097334	For TFT/LCD displays, contains no alcohol, flameproof
Air Duster 400g	01750108425	Non-flammable
Cleaning cloths with isopropanol	01750104065	100 cloths with isopropyl
Cleaning card for hybrid card readers	01750016388	Dampened cleaning card for all chip and hybrid card readers
Cleaning card for POS terminals	01750177183	Cleaning card for magnetic head and chip cleaning
Chip contact cleaning card	01750111611	For slot readers

Please note the *manufacturer's specifications* on the packaging and on the information leaflet included with the packaging. The product may be damaged or soiled if proper materials are not used or materials are not used properly.

13   Technical data

13.1   System

Mains input voltage	100-240 V~ / 60-50Hz
Power consumption	1.4-0.7A
Power typical	ca. 55W
Power max.	ca. 87W
Power standby	ca. 1.5W
Weight 15" Version	ca. 28 Kg
Weight 19" Version	ca. 30 kg

Operating temperature

Ambient temperature:	5° C – 35° C
Humidity:	5% r.h. (1 g/m^3) – 85% r.h. (25 g/m^3)
Temperature change:	0.5 K/min (max. 7.5K/30 min)
Barometric pressure:	70 kPa – 106 kPa

(70kPa corresponds to an installation at approximately 2000 meters above sea level)
Installation environments with long periods of sunshine should be avoided

Storage conditions

Ambient temperature:	5° C – 40° C
Humidity:	5% r.h. (1 g/m^3) – 85% r.h. (25 g/m^3) 0.5 K/min
Temperature change:	0.5 K/min (max. 7.5K/30 min)

Transport conditions

Ambient temperature:	-25 °C – 60° C
Humidity:	15% r.h. (1 g/m^3) – 98% r.h. (32 g/m^3)
Temperature change:	-25° C / 25° C

13.2   PC

SSD	128 GB
CPU	Intel i5-4570TE
Graphic Adapter	VGA, resolution max. 1920x2000 Pixel @ 60 Hz

13.3   Display 15"

Dimensions	Diagonals	15" (38.1 cm) TFT Ratio 4:3
	Max. resolution	1024 x 768
	Screen housing	337.4 x 265.4 x 44.3 mm
	Screen area	304.1 x 228.1 mm
Frequencies	Horizontal (KHz)	Typ. 48.3
	Vertical (Hz)	Typ. 60
Resolutions	Horizontal	1024 pixels
	Vertical	768 pixels
	Color depth	Up to 16.2 million
Dot/pixel size		Approx. 0.297 mm x 0.297 mm
Reading angle Vertical Horizontal		Typically 160 degrees; min. 140 degrees Typically 140 degrees; min. 120 degrees
Brightness		Typically 250 cd/m²
Backlighting		Twin lamps CCFL, inverter
Touch Technology		10 points Projective Capacitive
Contrast		700:1
Reaktion time		25ms (typ)

13.4   Display 19"

	Diagonals	19" (48.3 cm) TFT – Ratio 5:4
Dimensions	Max. resolution	1280 x 1024
	Screen housing	373 x 301 mm
Frequencies	Screen area	typ. 48,3
	Vertikal (Hz)	typ. 60
Resolutions	Horizontal	1280 Pixel
	Vertical	1024 Pixel
	Color depth	Up to 16,2 Mio.
Dot/pixel size		ca. 0,294 mm x 0,294 mm
Reading angle Vertical Horizontal		typ. 160 ° typ. 170 °
Brightness		typ. 225 cd/m²
Backlighting		Twin lamps CCFL, Inverter
Touch Technology		10 points Projective Capacitive
Contrast		1000:1
Reaktion time		5ms (typ)

13.5   Printer TH230+

Technology	High-speed thermal printer
Resolution	8 dots/mm (203 dpi)
Printing speed	Mono color: 220 mm/s, Two colors: 110 mm/s Draft mode up to 300 mm/s (reduced intensity)
Cutter	Material: hardened steel, Full cutting speed: < 300ms
Paper transport	Forwards; to utilize the entire capacity of the paper > after cutting: up to 12mm backwards (approx. 3.5 lines at 7.52 lpi)
Control functions	Print head temperature control with adjustment of the print speed Near end paper control and out of paper control Error message for paper cutter Printer cover open/closed Self-test with printout
Optional	Paper width 57.5mm, Printing width = 51mm = 408 dots
Housing color	Light gray or black
Features	Simple replacement of paper roll: Optional two-color printing with special paper (100mm/s) 'Paper almost empty' message: can be defined by the user
Statistical data	Total number of dots Total number of line feeds Total number of cuts Max. head temperature Paper jam counter Error counter for cutter Error counter for thermistor Error counter for high voltage/low voltage Number of firmware updates Switch-on time in hours Switch-on counter
Reliability	55 million lines 3 million cuts at 55g/m² 150km at 12.5% print density
Graphics function	The TH230 is fully graphic-compliant.

| Paper width	79.5mm - 80mm
Paper weight	55g/m² ± 5 g/m²
Paper thickness	0.055mm – 0.1mm
Thermal coating	Rear side of paper
Paper roll Outer diameter	90mm max.
Width of paper roll	80.3mm max.
Length of paper	~100m
Core size	Core diameter 10mm +2mm Wall thickness of core: max. 2mm ± 0.3mm; End of paper not glued to core. Length of paper fold at core: 35mm
Print width	72mm = 576 dots

Paper width   79.5mm - 80mm

13.6   Scanner Magellan 3200VSi

| Reading features	
Resolution max.	5 mil
Image aquisition	Graphic format: BMP, JPEG
Image sensor	1280 x 1024
Read indicators	Beeper, (adjustable sound and volume), Good Read LED, transmission confirmation Good Read LED
Read height	14,0 cm /5,5 in
Read rate (maximum)	39 Mill. Pixel/sec.
Read angle	Pitch +/- 65 °; Roll (Tilt): 0-360 °; Skew (Yaw): +/- 75 °
Light source	Lightning: several 625nm LEDs, Laser Klasse 1 IEC 62471 EXEMPT GROUP
Barcode-Arten	
1D Barcode	Automated detection of all standard linear codes and linear GS1 DataBar^{TM} Codes
2D Barcode	Aztec Code, Data Matrix (ECC200nur), Maxicode, QR-Code
Stapelcodes	GS! DataBar Composites, GS1 DataBar Expanded Stacked, GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MicroPDF 417, PDF417

13.7   RFID/NFC Modul

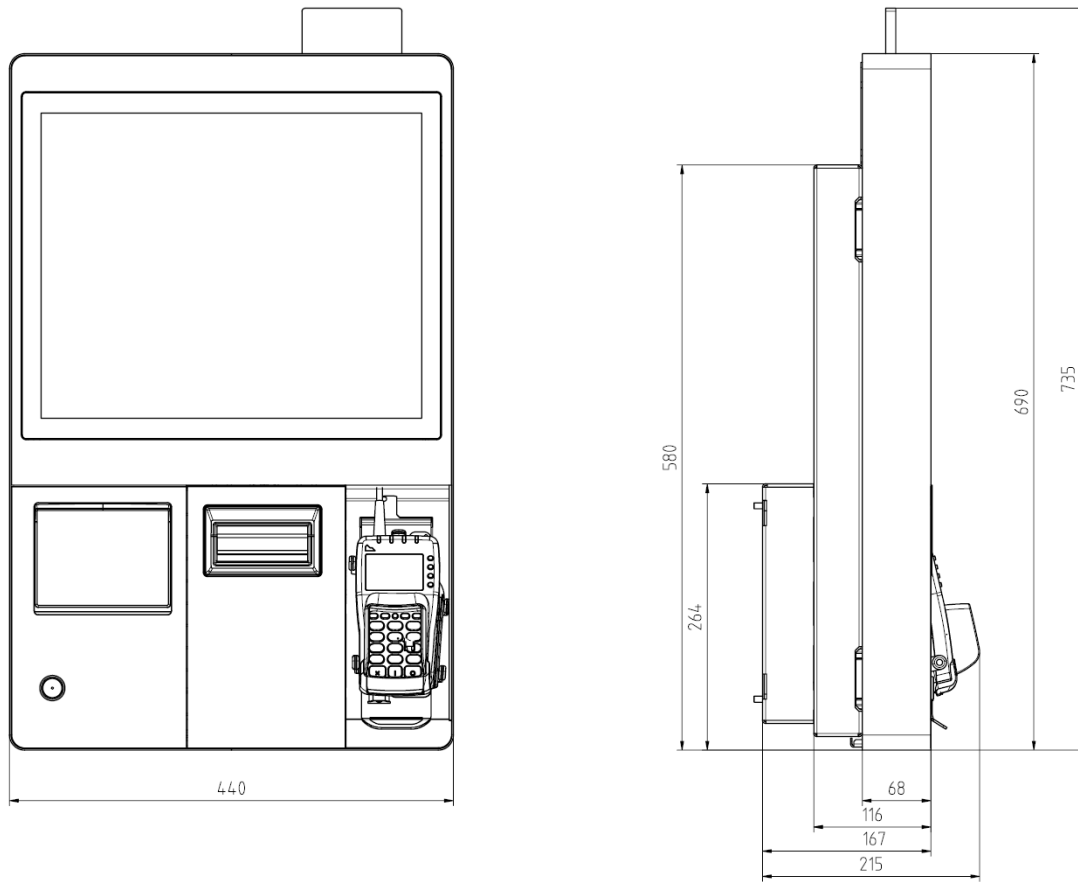| Provided Standards	ISO/IEC 15693 ISO/IEC 14443 Type A ISO/IEC 14443 Type B
RF-frequency	13.56 MHz
Firmware-Updates	Firmware upgradable via DFU interface
Middleware	JavaPOS 1.13
Operating system	Windows 7, Linux

14   Dimensions (mm)

14.1   Rear view
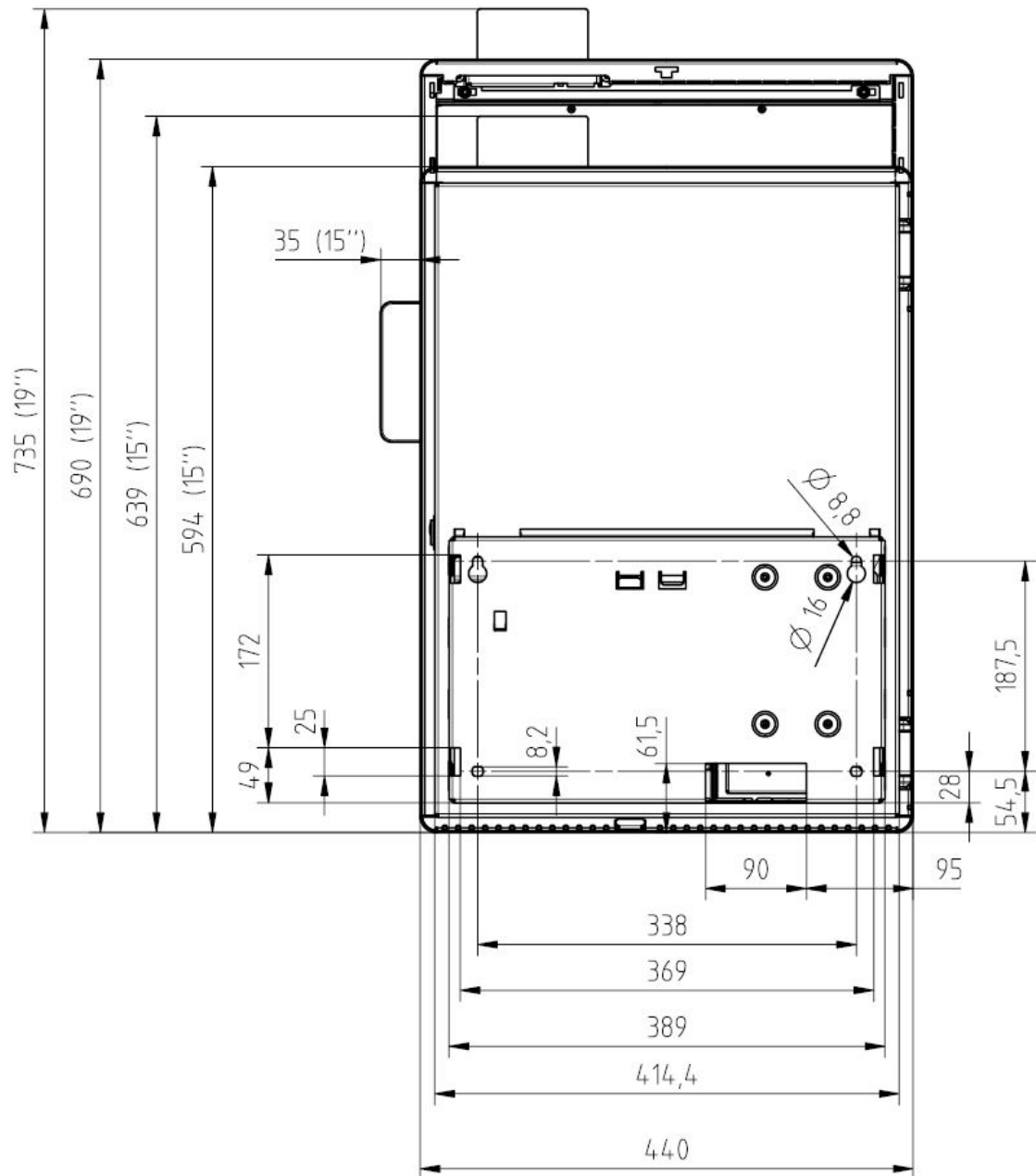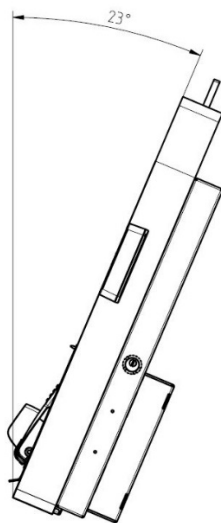
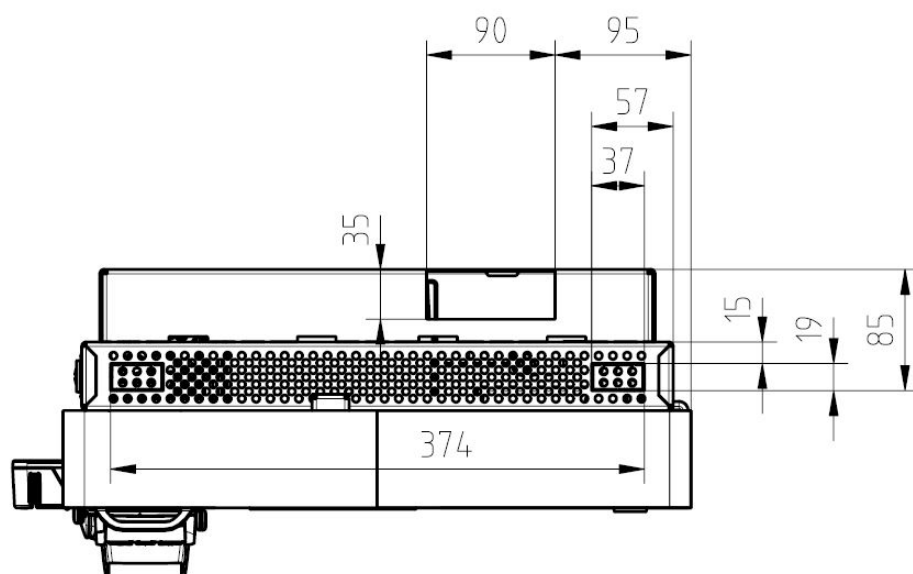## 14.2   15" Version
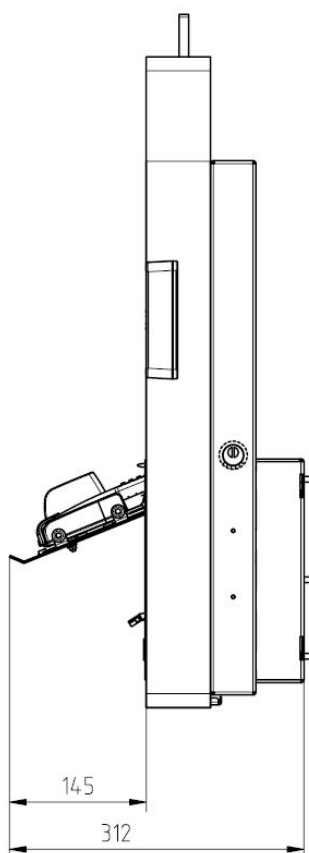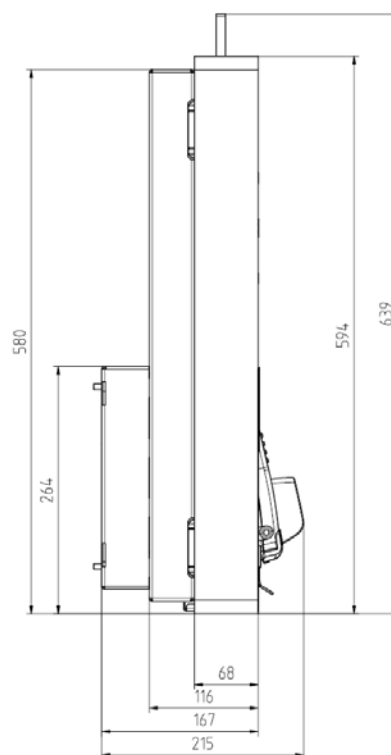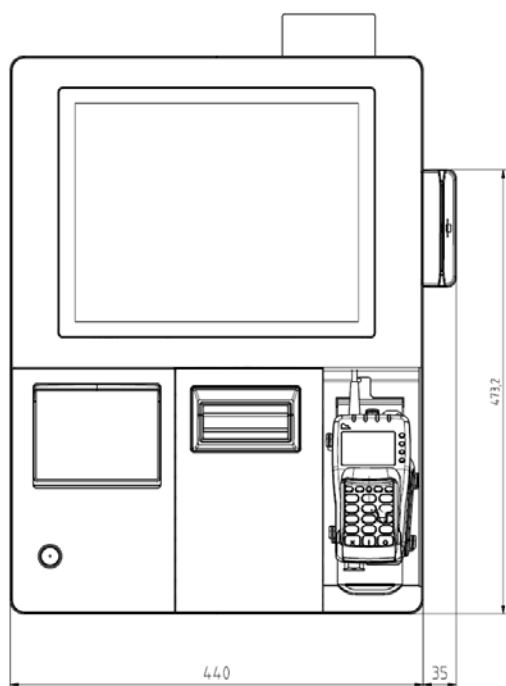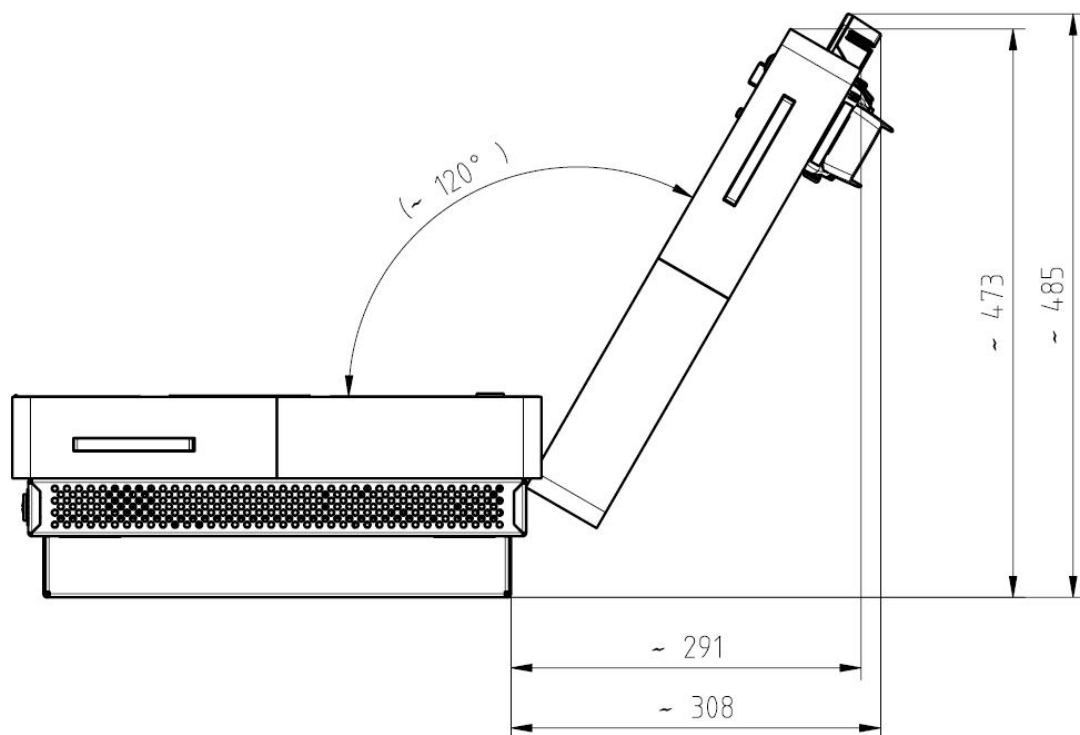
14.3   19" Version

14.4   Permissible tilt angle

14.5   From below

14.6   Device with open door

15   Certificates

This device meets the requirements of the EU directives 2014/30/EU with regard to "Electromagnetic compatibility" and 2014/35/EU "Low Voltage Directive" and 2011/65/EU "Restriction of Hazardous Substances". The device therefore bears the CE mark on the rear. Alternatively, the mark may be found on the packaging.

The system is approved for the USA and Canada.

This equipment has been tested and complies with the limit values for a Class A digital device in accordance with Part 15 of the FCC rules. These limits are designed to ensure reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates and uses and can also radiate radio frequency energy; if it is not installed and used in accordance with regulations, it 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 must correct the interference at his own expense. Changes that are not authorized by the manufacturer may invalidate the approval of the user to operate this equipment. This digital class A apparatus complies with the Canadian norm ICES-003.

(This digital class A apparatus complies with the Canadian norm ICES-003).

16   Recycling

This device was developed in accordance with the Diebold Nixdorf standard for the "design and development of environmentally-friendly products".

The device is produced without the use of CFCs and CCHs and is made in large part from recyclable materials and components.

Do not affix any additional stickers to the device for recycling reasons.

Diebold Nixdorf disposes of waste equipment in an environmentally responsible manner in a recycling center, which is certified in accordance with ISO 9001 and ISO 14001 as is the case for the entire company.

Observe your local regulations on the disposal of toxic waste (such as for example used batteries).

Your Diebold Nixdorf supplier will answer all your questions about returns, recycling and disposal of our products.

Diebold Nixdorf
33094 Paderborn, Germany

Order no.: ***01750301909A***