

K-two

User manual

March 2019

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Contents

1	Scope of document	1
1.1	Symbols	1
2	Further documentation	2
3	Warranty	2
4	Important notes	3
4.1	Connecting peripherals	4
4.2	Note concerning the laser	4
5	Scope of delivery	5
5.1	Serial number / Ratings	5
6	ESD (Electrostatic Sensitive Devices)	6
7	Components	7
7.1	Exterior view	7
7.2	Interior view	8
8	Opening the K-two	9
9	Starting/shutting down the device	10
9.1	Shutting down the system	10
9.2	Restarting the system after shutdown	10
10	Disconnecting the kiosk from power supply	11
11	TH230+	12
11.1	Safety notes	12
11.2	Control panel	13
11.3	Changing the paper roll	15
11.4	Cleaning the print head	16
12	Cleaning instructions	18
12.1	General details	18
12.2	Maintenance and service	18
12.3	Housing	18
12.4	Permitted cleaning materials	19
13	Technical data	20
13.1	System	20
13.2	Environmental requirements	20
13.3	Electrical characteristics of the power supply	21
13.4	Device conditions	21
13.5	Noise emission in acc. with EN 27779	21
13.6	ACO Kiosk PC	21
13.7	Scanner Honeywell CF3680	22
13.8	RFID/NFC Modul	23

13.9	Displays 22" (TEM-22F-PUG-15-C), 27" (TEF-27F-PUK-15A-C), 32" (TDS-32C-PUK-15A-C)	23
14	Dimensions of K-two	24
14.1	K-two with 22"-display	24
14.2	K-two with 27"-display	25
15	Certificates.....	26
16	Recycling	27








1 Scope of document

Responsibility for all technical and special requirements for installing the K-two lies with the customer.

The K-two 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 K-two.

1.1 Symbols

	 DANGER This warning note describes a hazard with a high degree of risk, which, if not avoided, will result in death or grave bodily injury.
	 WARNING This warning note describes a hazard with a medium degree of risk, which, if not avoided, will result in death or grave bodily injury.
	 CAUTION This warning note describes a hazard with a low degree of risk, which, if not avoided, will result in death or grave bodily injury.
	NOTICE This note provides application tips and information that help prevent errors and material damage.

2 Further documentation

Product	Document Type	Order Number
TH230+ Printer	User Manual	01750196338C

3 Warranty

Diebold Nixdorf 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.

4 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.

	 CAUTION
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 sockets of the house installation must be easily accessible.
- The device may only be repaired by authorized technicians.
- Unauthorized opening of the housing or inexperienced 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.
- 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 K-two 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.

4.1 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.

4.2 Note concerning the laser

The barcode reader contains a LED, which is classified in accordance with LASER Class 1.

5 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 International GmbH (WN) sales office. Make sure to also keep the packing list to hand to indicate the product name and the serial number of the device.

5.1 Serial number / Ratings

You will find the serial number on the service label, which is affixed to the inside and outside of the housing.

6 ESD (Electrostatic Sensitive Devices)



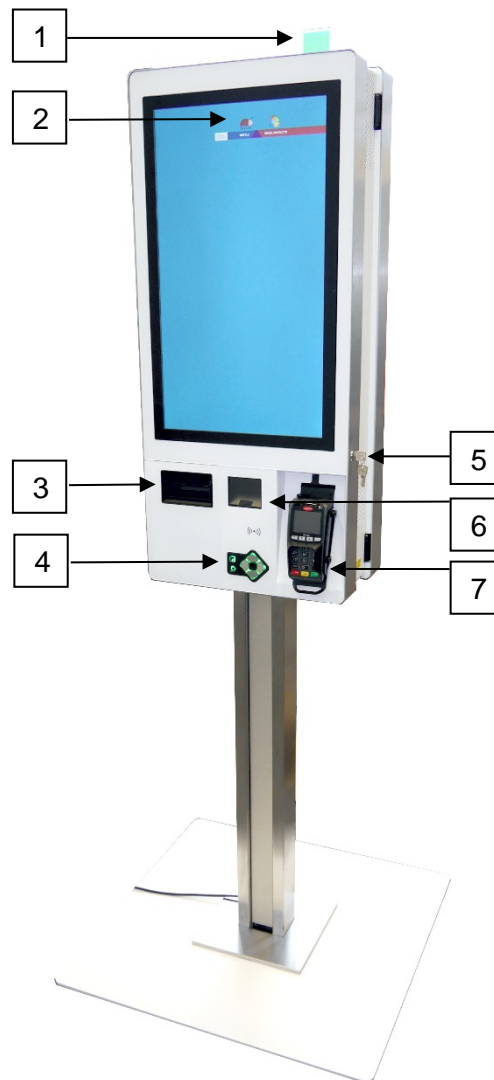
Components with electrostatic sensitive elements (ESD) can be marked by this label.

Note the following information when installing ESD components or modules. This information applies for 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.

7 Components

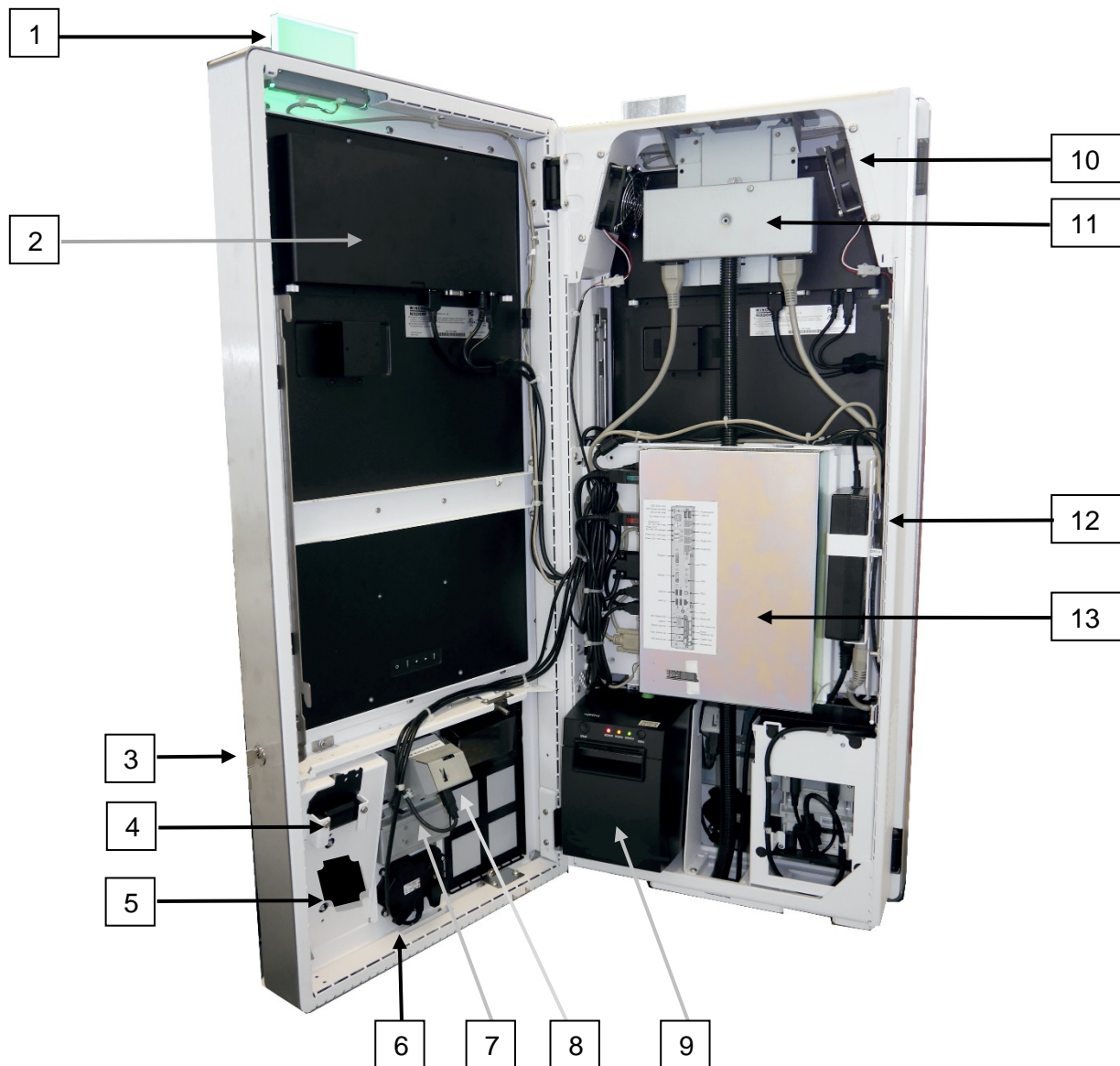
7.1 Exterior view



1	Pole Light	5	Lock
2	Display	6	Scanner
3	Printer	7	EFT*
4	ADA Navigation		

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

7.2 Interior view



1	Pole Light	6	ADA Navigation	11	Power Distributor
2	Display	7	NFC Module	12	Power Supply
3	Lock	8	Scanner	13	PC
4	EFT*	9	Printer		
5	Speaker	10	Fan		

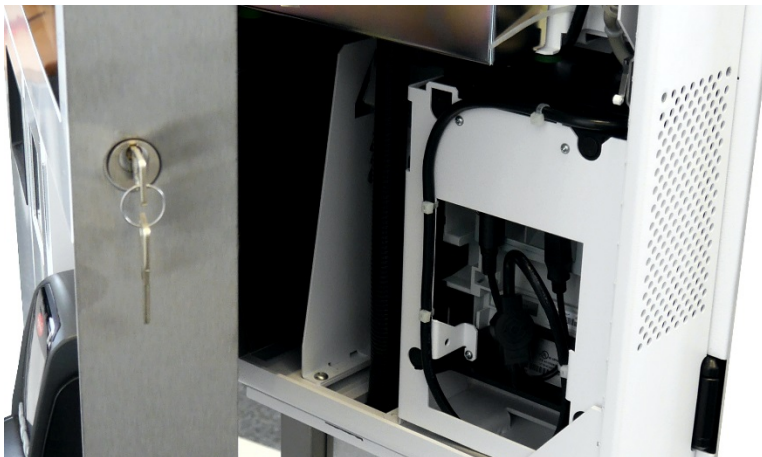
* It may be connected ETFs with 12V for max. current consumption of 1.1A (permanent).

8 Opening the K-two

Plug the key to the lock and turn it counter clockwise.



Open the device.



9 Starting/shutting down the device



NOTICE

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 at the PC in order to switch on the system (see arrow).



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.

9.1 Shutting down the system

Shut down the device by closing the application.

9.2 Restarting the system after shutdown

Push the ON/OFF button at the PC to start up the K-two.






10 Disconnecting the kiosk from power supply

Open the device and unplug the power cables of the PCs on the power distribution box if it is a device with fixed wiring. Otherwise, disconnect the mains plug from the housing installation.

11 TH230+

11.1 Safety notes

	NOTICE The printer must only be installed and repaired by a technician who is certified by Diebold Nixdorf.
	CAUTION Risk of injury! 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. Do not touch the printer's cutter and tear bar.
	NOTICE 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. The thermal head is ESD-sensitive. Do not touch either the print area or connection parts in order to avoid damage.

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
Green POWER LED flashing	The printing speed may be low (*); consult your Technical Support if necessary

(*) The printer operates with the lowest current value (48W) if a currentless power supply unit from Diebold Nixdorf or an external power supply unit without automatic current identification is used. A maximum current value of between 48 and 90 watts can be defined in the *configuration menu* using a suitable power supply unit type.

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

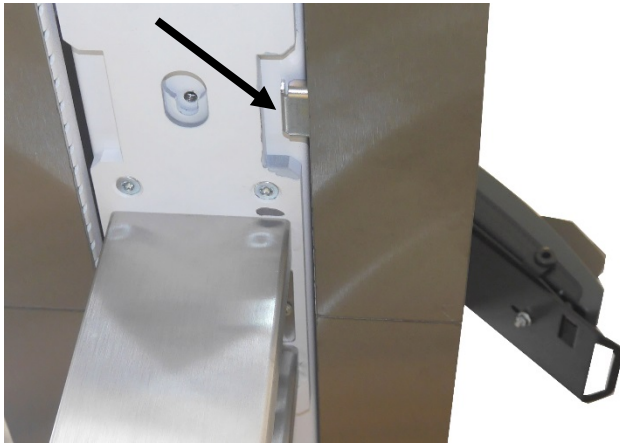
Red ERROR LED off	Normal status
Red ERROR LED lighting	Not ready. Printer cover is not closed or in combination with the yellow PAPER LED lighting, out of paper reached

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.
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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 Changing the paper roll

Open the K-two door. Press the OPEN button to open the printer cover.



Open the TH230* and 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).

	<div data-bbox="368 994 1396 1070"> CAUTION</div> <p data-bbox="368 1070 1396 1218">Risk of injury! 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.</p>
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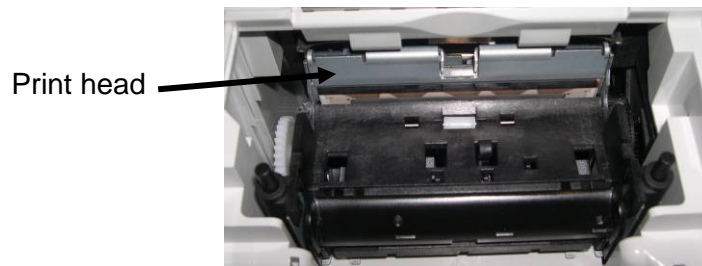
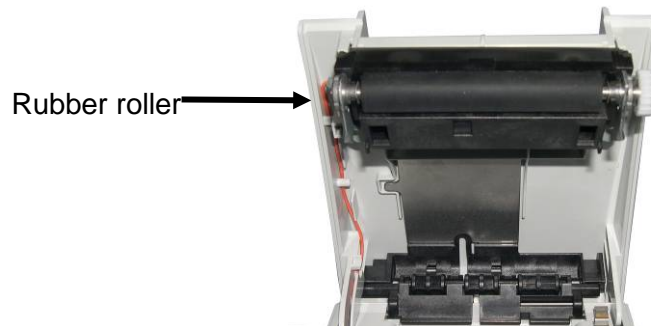
- Unwind the outer layer (winding) of the paper roll.
- Insert the paper roll. Place the unwound paper over the front edge of the printer.



- Tear off the paper at the cutting edge and close the printer door.

11.4 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.



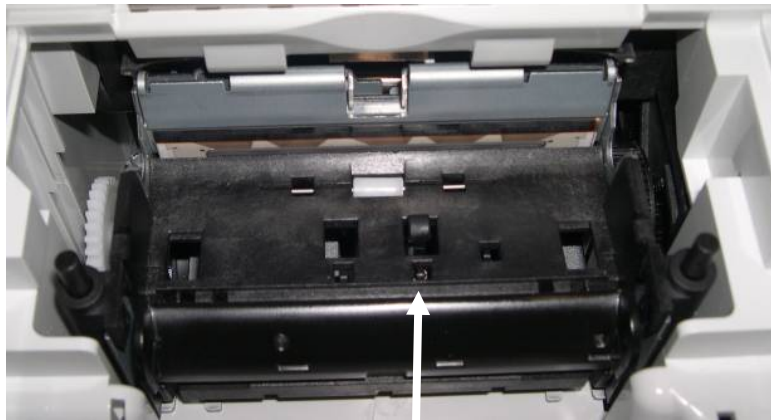
Open the printer cover and remove the paper roll; the rubber roller and the print head mechanism are now visible.



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



HINWEIS

Care not to damage the out of paper sensor when cleaning the print head.
Do not touch the rubber roller with your fingers.
Premature malfunctions may occur if the print head is not cleaned properly.
Wait until the isopropyl alcohol has evaporated.


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

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

	NOTICE Damage may be caused by a floor-cleaning machine hitting against the floor mounting of the K-two device!
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- **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.
- 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.

Incorrect care may damage the screen; this is not covered by the warranty.

12.2 Maintenance and service

Disconnect the K-two from the power supply when working on components and modules that are electrostatically charged.

12.3 Housing

Clean the housing using a vacuum cleaner or duster.

12.4 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 / 60-50 Hz
Power consumption	2.4-1.0 A
Weight 22" double sided	ca. 55 kg
Weight 22" single sided	ca. 35 kg
Weight 27" double sided	ca. 65 Kg
Weight 27" single sided	ca. 40 kg

13.2 Environmental requirements

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)
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

13.3 Electrical characteristics of the power supply

Nominal voltage	2.4 – 1.0 A
Mains voltage range	100 - 240 V
Nominal frequency	60 / 50 Hz
Network type	TN
Permissible tolerance for voltage range	-10 % bis +6%
Permissible tolerance for rated frequency	±1 %

13.4 Device conditions

		110-120V				220-240 V			
		Idle Mode		Operation		Idle Mode		Operation	
	Typical current consumption	2,2	A	2,65	A	0,81	A	0,9	A
	Active Power	154	W	220	W	150	W	295	W
					110-120V				
Leakage Current					<3,5	mA			
Protection class					I				

13.5 Noise emission in acc. with EN 27779

Noise rating according ISO 7779	Idle Mode		Operation	
Sound power level LWAd	4	B	5	B
Workplace-related sound pressure level LpAm	41	dB	51	dB

* typical operating cycle

13.6 ACO Kiosk PC

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

13.7 Scanner Honeywell CF3680

Illumination	White LED
Scan pattern	Area image (640 px x 480 px array)
Distance selection	3 position switch: 0 cm to 10 cm [0 in to 4 in]. 0 cm to 20 cm [0 in to 8 in]. 0 cm to 30 cm [0 in to 12 in]
Motion tolerance	1 0 cm/s [4 in/s] at focal point ($\pm 15\%$ tolerance)
Scan angle	horizontal: 37.8° ($\pm 1.0^\circ$), vertical: 28.8° ($\pm 1.0^\circ$)
Print contrast	35% minimum reflective difference
Decode capability	1 Aztec Code, Codabar, Codablock F, Code 11, Code 32(PARAF,} Code 128, Code 2 of 5, Code 39, Code 93, Data Matrix, EAN/JAN-13, EAN/JAN 8, EAN-UCC Composite Codes, EJC-N-UCC Emulation, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MaxiCode, MicroPDF417, MSI, PDF417, Postal Codes (Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet}, QR Code, RSS Expanded, RSS Limited, RSS-14, TCIF Linked Code 39, UPC-A, UPC E, Chinese Sensible (Han Xin} Code, Maxicode, Codablock A, UPC-A/EAN-13 with Extended Coupon Code. Coupon GS1 typical read range shown in Table 5
Light level	0 lux to 100,00 lux [0 foot-candles to 9,290 foot-candles]

Table Symbolologies

Symbol	Near distance (mm [inch])	Far distance (mm [inch])	Depth of field (mm [inch])
10MILC39	0 [0]	174[6,7]	174[6,7]
15MILC39	0 [0]	259 [10,21]	259 [10,2]
100 %UPC-A	0 [0]	210 [8,21]	210 [8,2]
15MIL PDF417	0 [0]	187 [7,31]	187 [7,3]
15MILDLM	0 [0]	87 [3,41]	87 [3,4]
20MILQR	0 [0]	150 (5,9]	150 (5,9]

13.8 RFID/NFC Modul

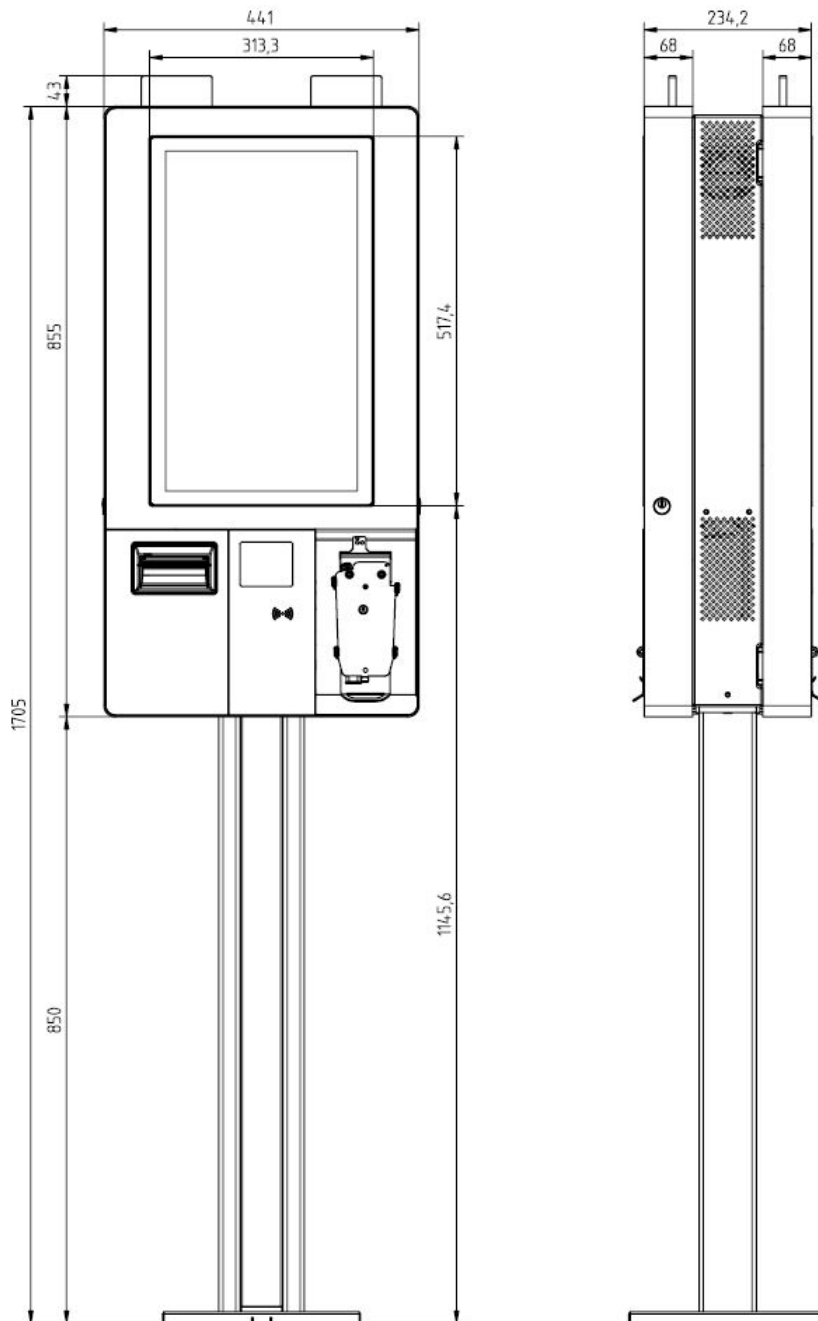
Provided Standards	ISO/IEC 15693 ISO/IEC 14443 Type A ISO/IEC 14443 Type B
RF-frequency	13.56 MHz
Firmware-Updates	Firmware upgradable via DFU interface
Middleware	JavaPOS 1.13
Operating system	Windows 7, Linux

13.9 Displays 22" (TEM-22F-PUG-15-C), 27" (TEF-27F-PUK-15A-C), 32" (TDS-32C-PUK-15A-C)

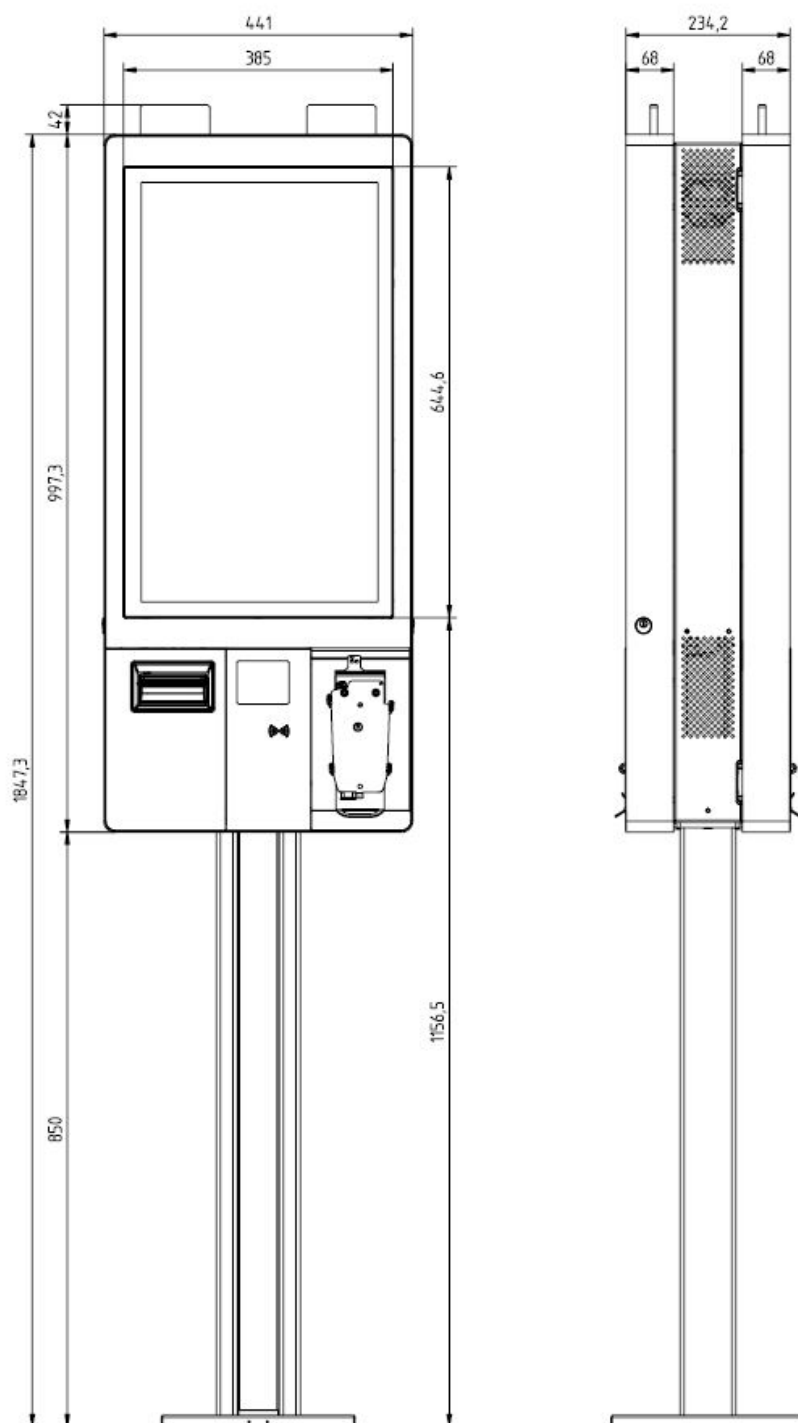
Size	22"	27"	32"
Maximum resolution	1920 x 1080	1920 x 1080	1920 x 1080
Contrast	1000:1	3000:1	3000:1
Colors	16.7M	16.7M	16.7M
Brightness (with touch)	300 cd/m ²	300 cd/m ²	300 cd/m ²
Brightness (without touch)	270 cd/m ²	270 cd/m ²	270 cd/m ²
Active area	476.64 (H) x 268.11 (V) mm	597.9 (H) x 336.3 (V) mm	698.4 (H) x 392.85 (V) mm
Viewing angle	170° (H) / 160° (V)	178° (H) / 178° (V)	178° (H) / 178° (V)
Video port	VGA (analog) / DVI-D (digital)	VGA (analog) / DP und HDMI (digital)	VGA (analog) / DVI-D (digital)
Power	24W (On-Mode) / 3W standby / 1W Soft-Off	30W (On-Mode) / 3W standby / 2W Soft-Off	38W (On-Mode) / 2W standby / 1W Soft-Off
Plug & Play	DDC 2B compatible	DDC 2B compatible	DDC 2B compatible
Display resolutions	1920 x 1080 (60Hz) 1680 x 1050 (60Hz) 1440 x 900 (60/75Hz) 1280 x 1024 (60/70/75Hz) 1024 x 768 (60/70/75Hz) 800 x 600 (60/70/72/75Hz) 640 x 470 (60/66/70/72/75Hz) 720 x 400 (70Hz)	1920 x 1080 (60Hz) 1680 x 1050 (60Hz) 1440 x 900 (60/75Hz) 1280 x 1024 (60/70/75Hz) 1024 x 768 (60/70/75Hz) 800 x 600 (60/70/72/75Hz) 640 x 470 (60/66/70/72/75Hz) 720 x 400 (70Hz)	1920 x 1080 (60Hz) 1680 x 1050 (60Hz) 1440 x 900 (60/75Hz) 1280 x 1024 (60/70/75Hz) 1024 x 768 (60/70/75Hz) 800 x 600 (60/70/72/75Hz) 640 x 470 (60/66/70/72/75Hz) 720 x 400 (70Hz)
Touch screen technology	Projected capacitive	Projected capacitive	Projected capacitive
Touch screen interface	USB (Typ-B)	USB (Typ-B)	USB (Typ-B)
OSD control key	Power On/Off, Select, Down, Up, Menu	Power On/Off, Select, Down, Up, Menu	Power On/Off, Select, Down, Up, Menu
OSD option	Contrast, Brightness, Auto Adjust, Left/right, Down/Up	Contrast, Brightness, Auto Adjust, Left/right, Down/Up	Contrast, Brightness, Auto Adjust, Left/right, Down/Up
Certificates	TÜV, CE, UL, cUL, FCC-B, RoHS	TÜV, CE, UL, cUL, FCC-B, RoHS	TÜV, CE, UL, cUL, FCC-B, RoHS

14 Dimensions of K-two

14.1 K-two with 22"-display



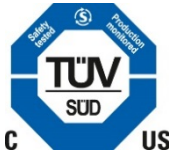
14.2 K-two with 27"-display



15 Certificates



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



The system is approved for the USA and Canada.

Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Responsible Party in the U. S.: Diebold Nixdorf

Address: 5995 Mayfair Road
N. Canton, OH 44720 / USA

Contact: cynthia.williams@dieboldnixdorf.com

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A 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 may 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.

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada. (2) this device must accept any interference received, including interference that may cause undesired operation.

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
D-33094 **Paderborn**, Germany

Order no.: 01750312066B