

# NextGen AIO D1156 Display

User Manual

01750348356A



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# 1 Manufacturer's declaration and approval

## General authorization



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

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

## FCC-Class A Declaration

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.

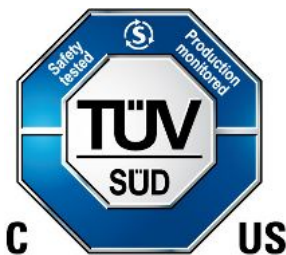
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

Modifications not authorized by the manufacturer may void users' authority to operate this device.

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, including interference that may cause undesired operation.

CAN ICES-3 (A)/NMB-3 (A)

## Tested safety



The Display D1156, Display D1156 /pc-touch has been awarded the cTUVus 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.
- This equipment is not suitable for use in locations where children are likely to be present.
- 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@Dieboldnixdorf.com](mailto:info@Dieboldnixdorf.com)

We look forward to your mail.

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## 2 Supplier's Declaration of Conformity

Product Description: LCD Monitor

Model: Display D1156, Display D1156 /pc-touch

### **Party issuing Supplier's Declaration of Conformity**

Diebold Nixdorf Singapore PTE. LTD.

30A Kallang Place, #04-01

Singapore 339213

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.

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## 3 Introduction

### 3.1 From Point-of-Sale to Point-of-Service

With the D1156 you are using an ergonomically and customer-friendly cashier's workplace.

Equipped with a sleek modern bezel free design and robust aluminum housing, the D1156 features projected capacitive touch technology. There is also a non-touch version available.

The D1156 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-D and USB-C DP. Instead of using a standard power supply with 12V DC jack, a PoweredUSB 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 and flicker-free color monitor of the D1156 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.

### 3.2 Features at a glance

- Low footprint
- Autoscaling of the screen
- Flicker-free
- Very good contrast ratio, adjustable loudness, 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 100 standard
- Integrated loudspeaker
- USB interface for external devices.

### 3.3 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 D1156.

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



#### NOTE

Notes in the manual are marked by this symbol.



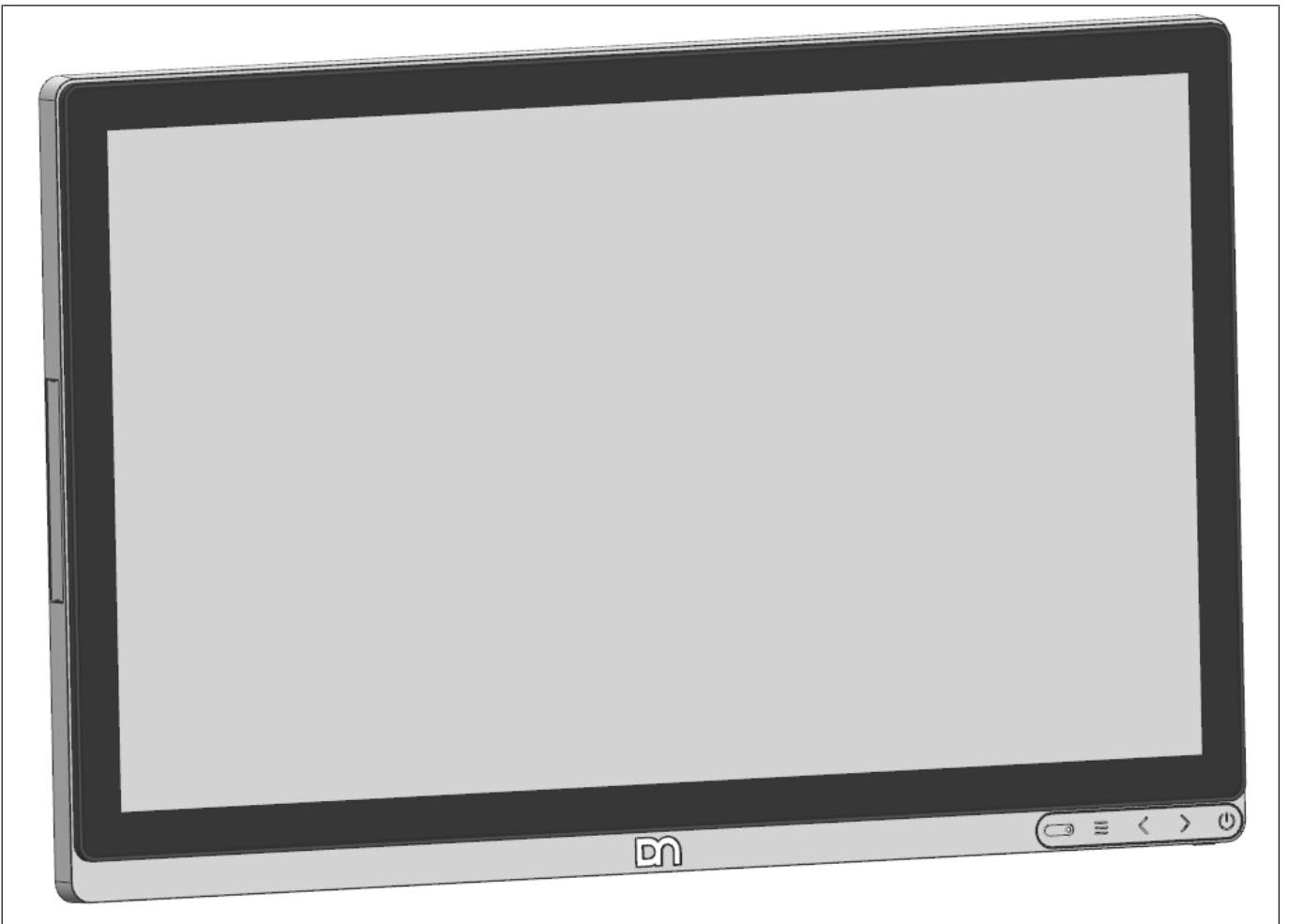
#### WARNING

This symbol is used for warnings.



## 4 Display overview

### 4.1 D1156



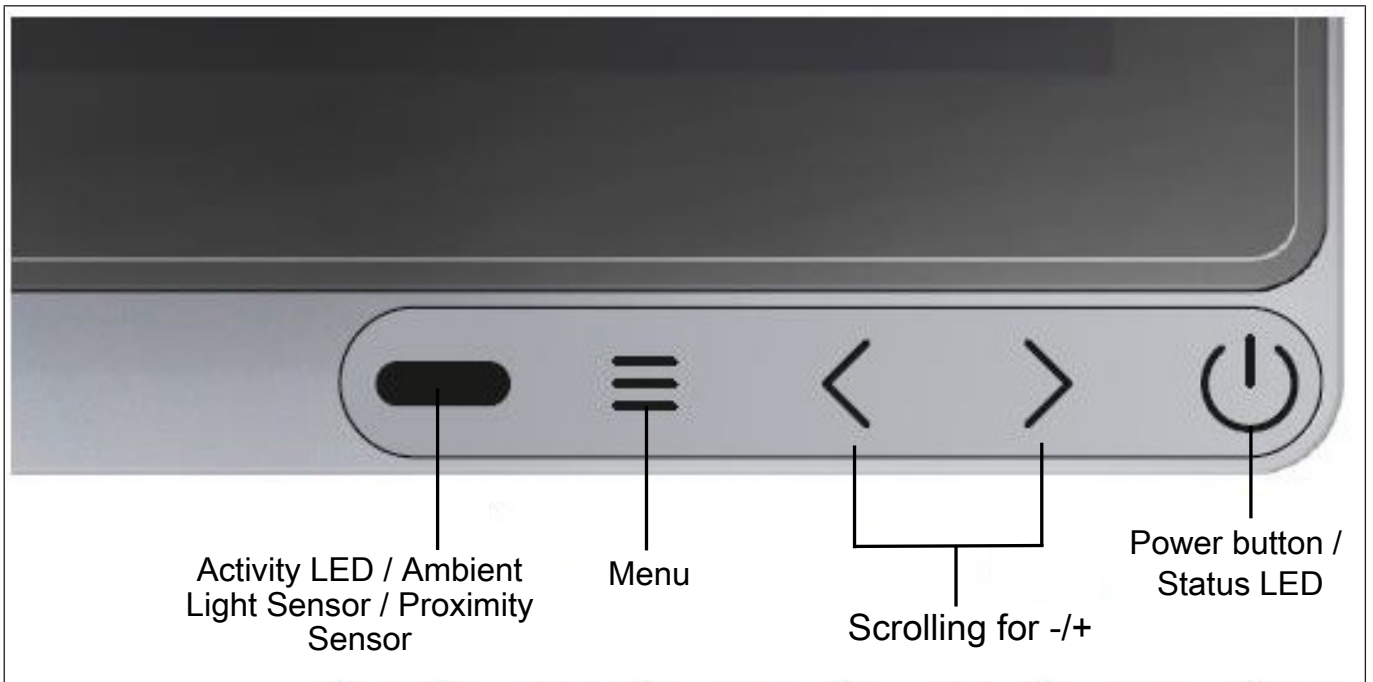
The LCD TFT Panel Display is a 15.6-inch flat panel display which is absolutely flicker-free. It is designed for a resolution of max. 1920x1080 pixels. Application programs should use this resolution.

### 4.2 Touch screen per model

Model	Screen Size	Touch Screen
Display D1156 /pc-touch	15,6"	Projected Capacitive Touch
Display D1156	15,6"	No Touch, Protective Glass

# 5 User interfaces

## 5.1 Front panel



### 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

Behavior of Activity LED	Behavior of Status LED	Operating Condition
Off	LED off	Power off
Green	White, full brightness	Power on
Off	White, full brightness, blinking at 1Hz	Standby / No video input
Amber	White, partial brightness (dimmed)	Soft-Off

### ON/OFF button

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



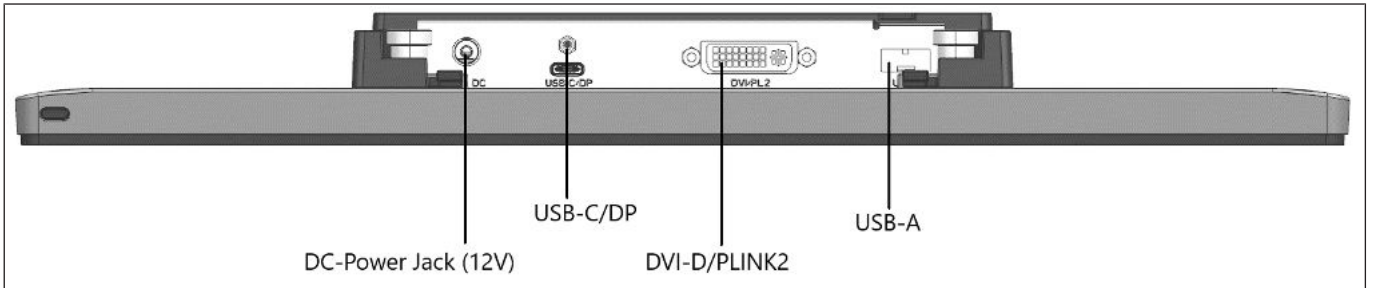
### NOTE

If the display is manually switched off, it will not wake up automatically when the system boots.

When the D1156 is connected via PLINK2™ interface to a BEETLE system, the button also switches the system on or off, provided that the system supports the feature. See section Display Settings / RMT enable/disable for details.

## 5.2 Connector panel

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



DC-Power Jack	Power supply for the screen via external power supply or PoweredUSB (12V).
USB-C/DP	USB connection to the PC system.
DVI-D/ PLINK2	DVI-D or PLINK 2 for video/data transfer between the system and the TFT display.
USB-A	USB connection to the PC system.

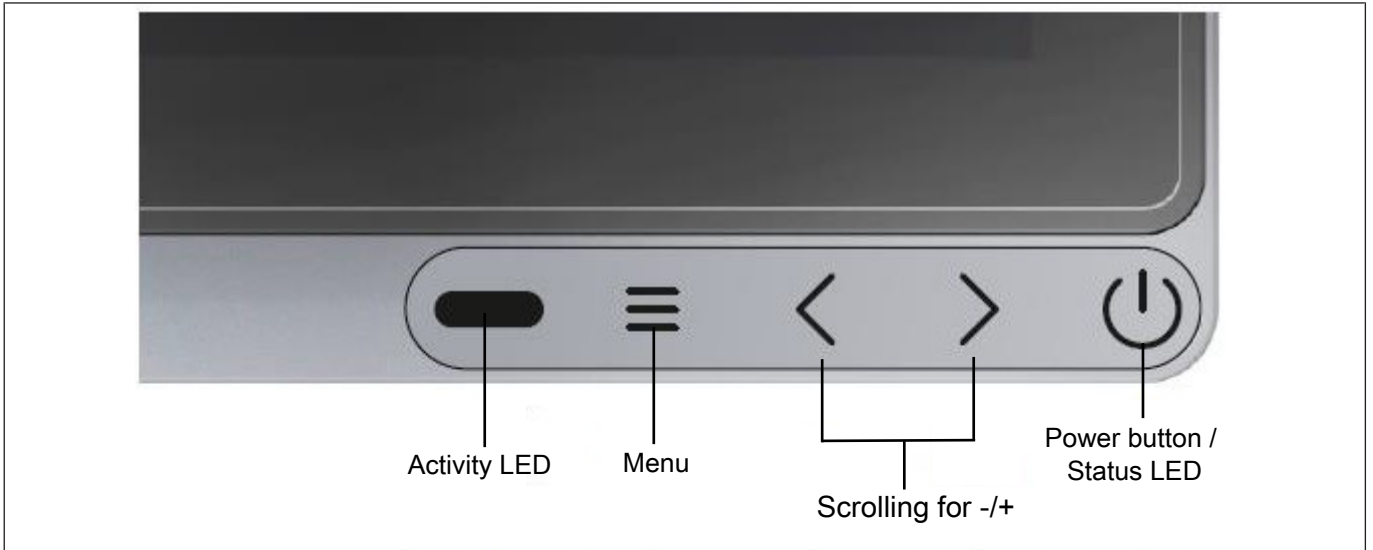


### NOTE

For BEETLE systems with PLINK2 interface, a PLINK2 cable can be used to as a single wire interface to supply power, video and data signal to the display.

## 5.3 On-Screen Display (OSD)

A set of 4 buttons is located at the front panel.



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. Please refer to the table on the next page for details.

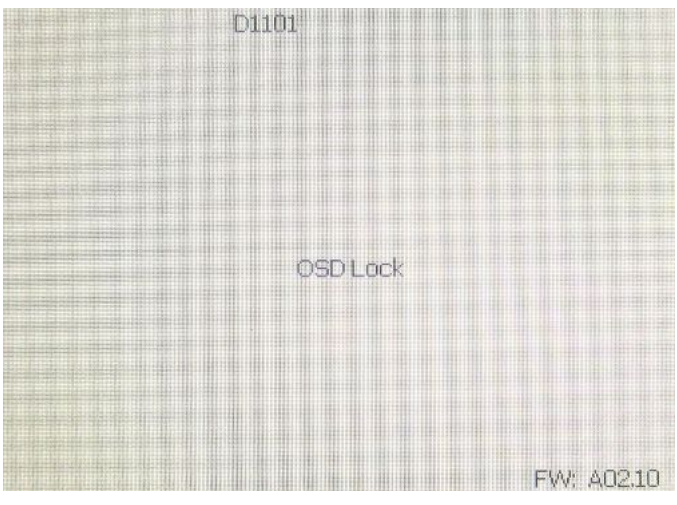
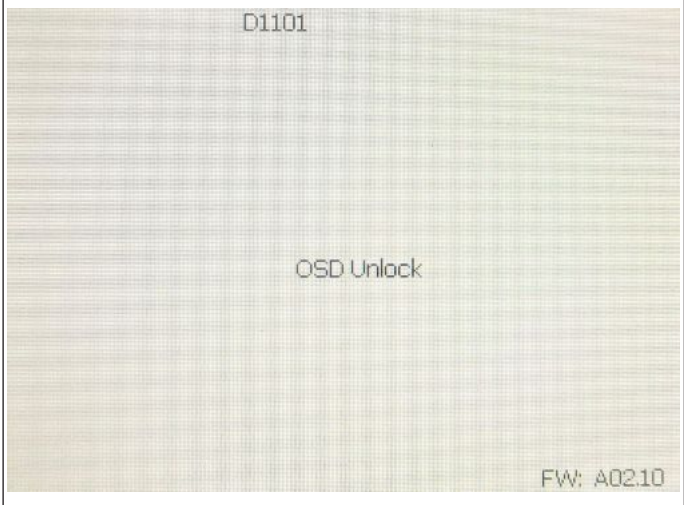
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## 6 Display settings

The D1156 display offers several settings which are available through the OSD. Below you can find a list of specific factory default settings that can be customized in order to suit the specific installation needs.

### 6.1 OSD lock/unlock

Per default the OSD is accessible to the end user, allowing user to make changes to the display settings. The OSD can be locked by pressing and holding the menu button for approx. 6 seconds. The display shows a message on the screen that the OSD is now locked.

OSD lock	OSD Unlock
 A screenshot of the OSD lock screen. The background is a light gray with a fine grid pattern. At the top center, the text "D1101" is displayed. In the middle, the text "OSD Lock" is displayed. At the bottom right, the text "FW: A02.10" is displayed.	 A screenshot of the OSD unlock screen. The background is a light gray with a fine grid pattern. At the top center, the text "D1101" is displayed. In the middle, the text "OSD Unlock" is displayed. At the bottom right, the text "FW: A02.10" is displayed.

## 6.2 RMT enable/disable

The RMT feature allows the display's power button to act as the power button of the BEETLE system. This feature is only available when the display is connected to a BEETLE system using a PLINK2™ interface cable. The mode of operation depends on the settings of the BEETLE BIOS as well as on the display settings. For details please consult the table below.

BEETLE BIOS Settings	D1156 Settings	BEETLE System and Display State	Result of pressing the Display power button
RMT enabled	RMT enabled	OFF	System starts booting; Display switches on by system.
		ON	System starts shutdown; Display switches off when system shutdown is completed.
	RMT disabled	OFF	System starts booting; Display switches on by system.
		ON	<sup>1</sup> System no reaction; Display switches off.
RMT disabled	RMT enabled	OFF	System no reaction; Display remains off.
		ON	System no reaction; Display remains on.
	RMT disabled	OFF	System no reaction; Display remains off.
		ON	System no reaction; Display switches off.



### NOTE

<sup>1</sup> For FW 2.10 onwards. For information about the power button behavior of previous FW versions, please contact a Diebold Nixdorf sales representative.

## 6.3 Power button – lock/unlock

The power button is unlocked by default. The user can switch the display on and off discretely, independent of the connected host system. If the power button is locked, the user cannot manually switch the display on or off.



### NOTE

If RMT is enabled, power button will initiate RMT signal to host system but will not switch the display off.

# 7 Touch technologies

## 7.1 Projected Capacitive Touch Screen

### 7.1.1 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, because the active touch surface – different from common capacitive touch screens which were used until now - is located on the back side of the touch screen. Thus the active touch surface is not touched directly anymore and therefore will not wear off by normal use. 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.

### 7.1.2 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.

### 7.1.3 Cleaning instructions

	<b>⚠ WARNING</b>
	<p>Always turn off the system before cleaning.</p> <p>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.</p> <p>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.</p>

	<b>NOTE</b>
	<p>A wrong maintenance may cause damages to the screen, which are not covered by guarantee or warranty.</p>



# 8 Initial setup

## 8.1 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.

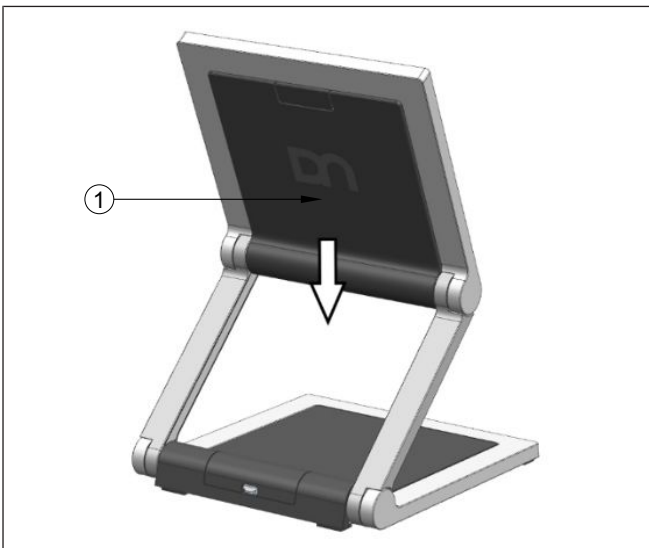
Transport the device only in its original packaging (to protect it against impact and shock).

## 8.2 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!

### 8.2.1 Installing system to the stand (standard)

#### 8.2.1.1 Preparing the stand



1. Remove the VESA cover by sliding it downwards (indicated by arrow).



#### NOTE

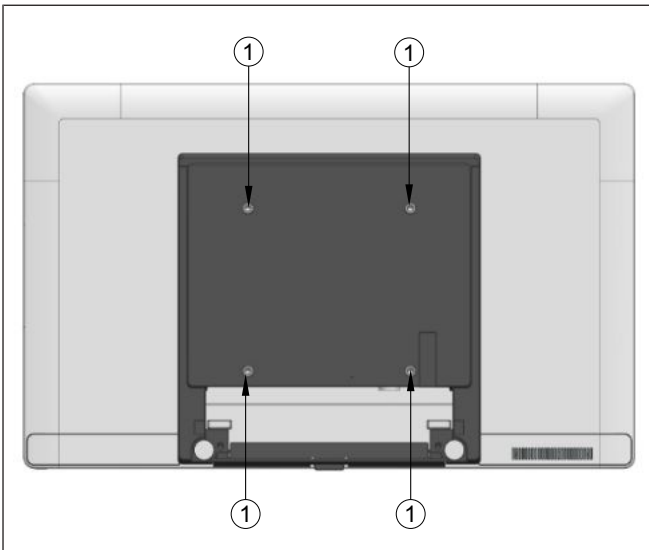
\*Observe the safety precaution mentioned on the next page when you remove the back cover of stand.



#### WARNING

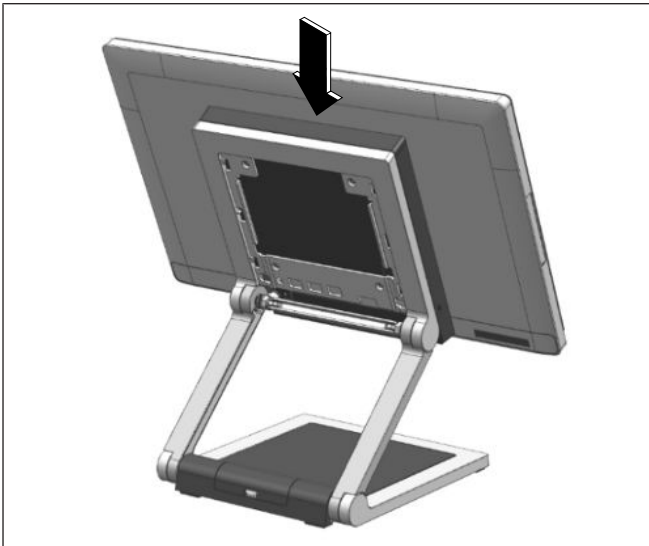
To avoid damage to the back cover of the stand, be careful of how you would remove it.

### 8.2.1.2 Preparing the system

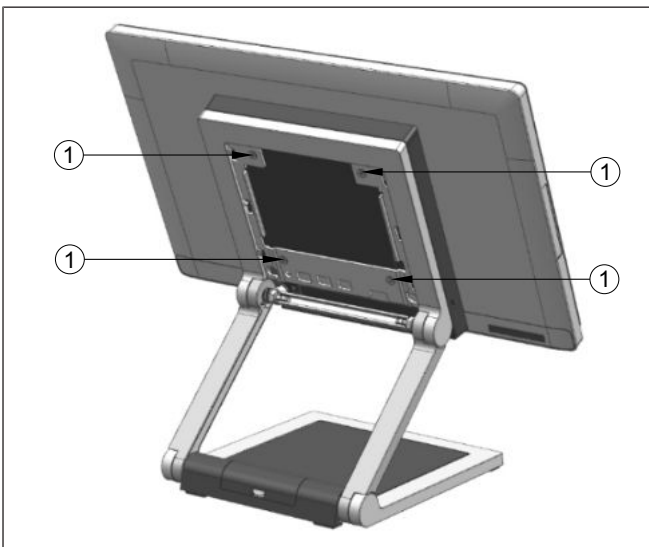


1. Place a piece of protection sheet on a flat surface e.g. a table.
2. Lay the display face down on the protection sheet.
3. Remove the 4 screws (1) that come with the D1156.

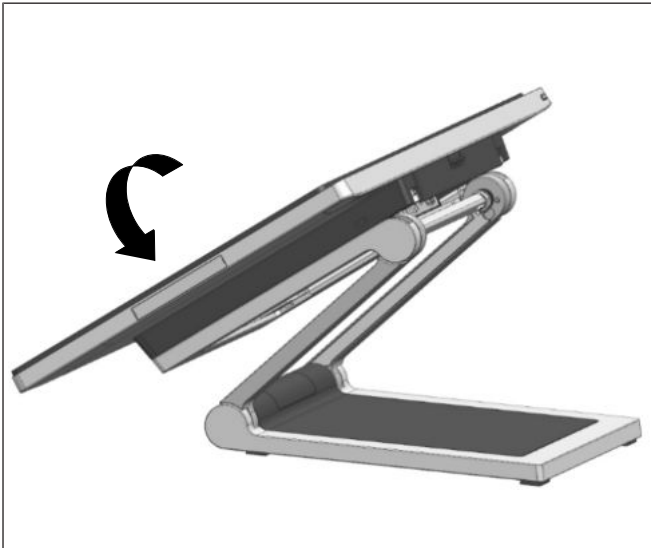
### 8.2.1.3 Installing system to the stand



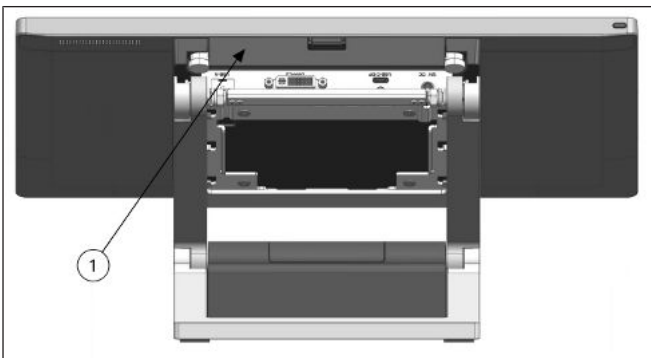
1. Fit the system on the stand while holding it in place.



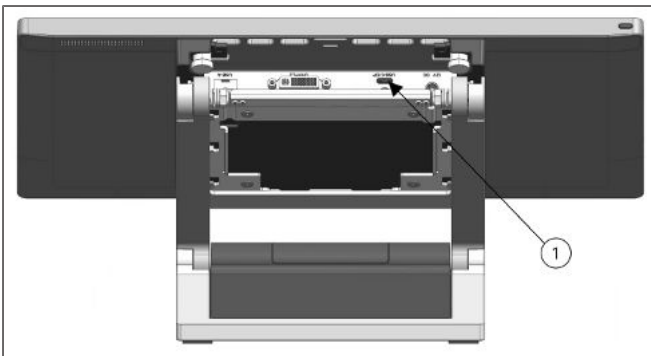
2. Tighten the 4 M4x6 countersunk screws (1) (that came with the stand) to secure the system to the stand.



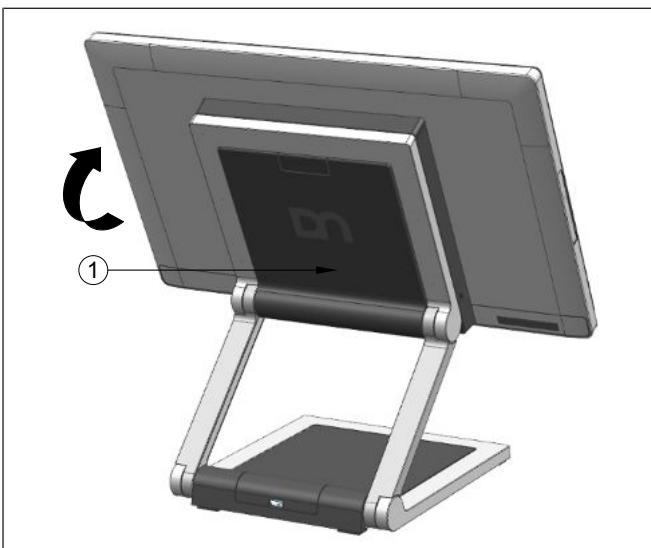
3. Tilt the system back to access the connector panel at the bottom of the system display.



4. Remove the cable cover (1).



5. Plug the USB-C cable into the port indicated (1).
6. Replace the cable cover.



7. Tilt the system back to its operating position.
8. Replace the VESA cover (1) by pushing it upwards.

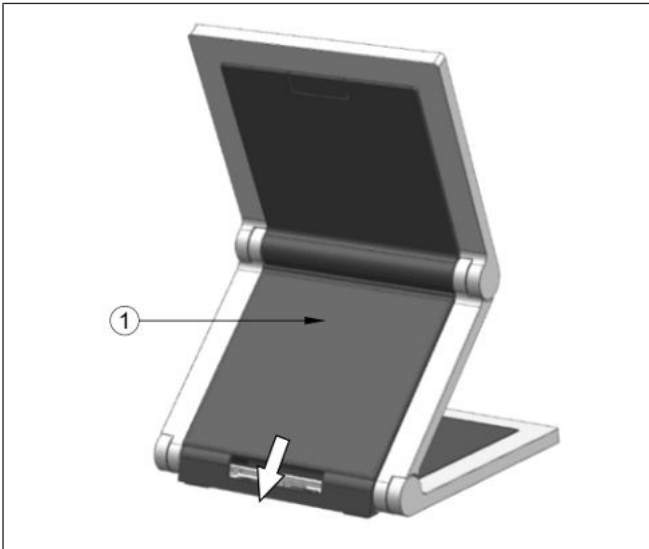


**NOTE**

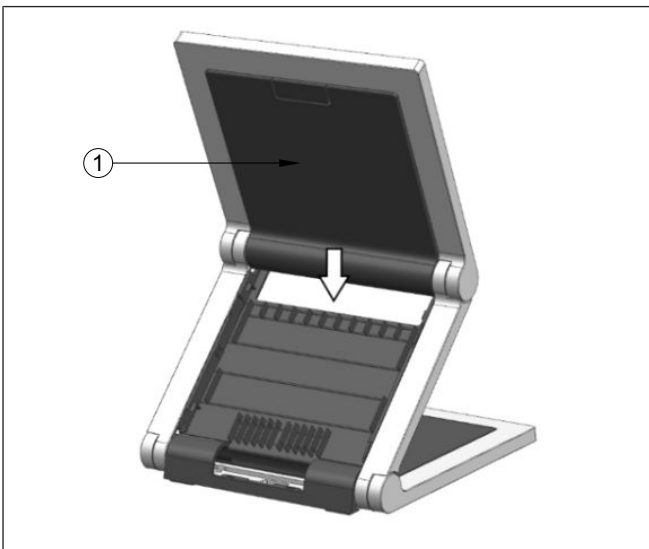
When uninstalling the stand, always make sure that all cables are disconnected.

## 8.2.2 Installing system to the stand (with cable covers)

### 8.2.2.1 Preparing the stand



1. Remove the back cable cover (1) by sliding it downwards (indicated by arrow).



From the stand:

2. Remove the VESA cover by sliding it downwards (indicated by arrow).



**NOTE**

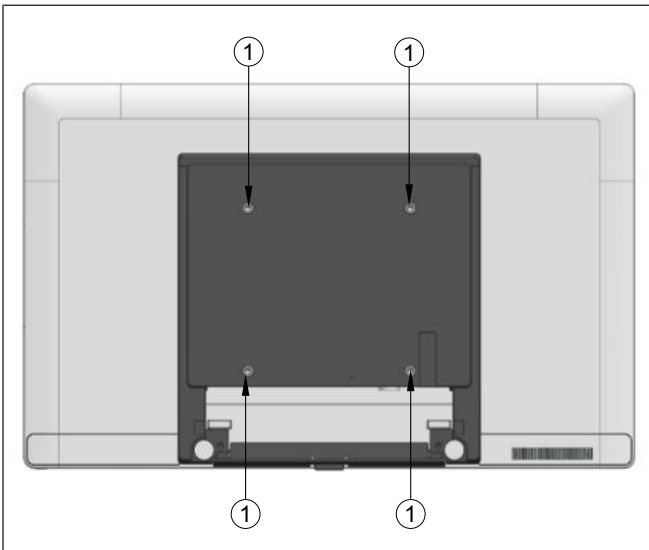
\*Observe the safety precaution mentioned on the next page when you remove the back cover of stand.



**WARNING**

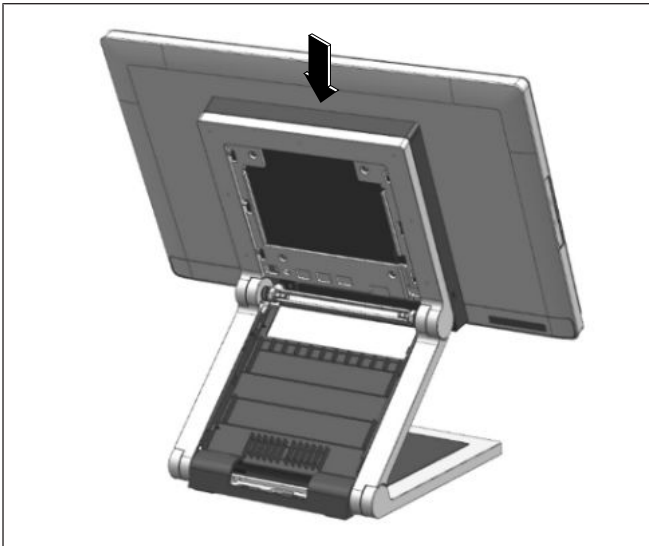
To avoid damage to the back cover of the stand, be careful of how you would remove it.

### 8.2.2.2 Preparing the system

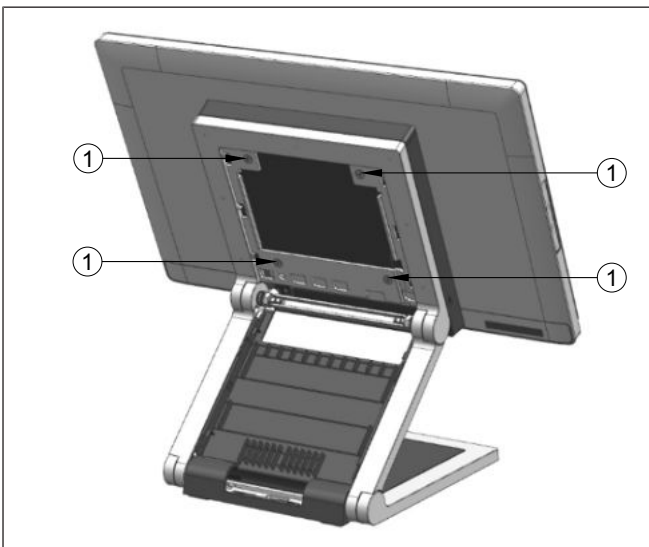


1. Place a piece of protection sheet on a flat surface e.g. a table.
2. Lay the display face down on the protection sheet.
3. Remove the 4 screws (1) that come with the D1156.

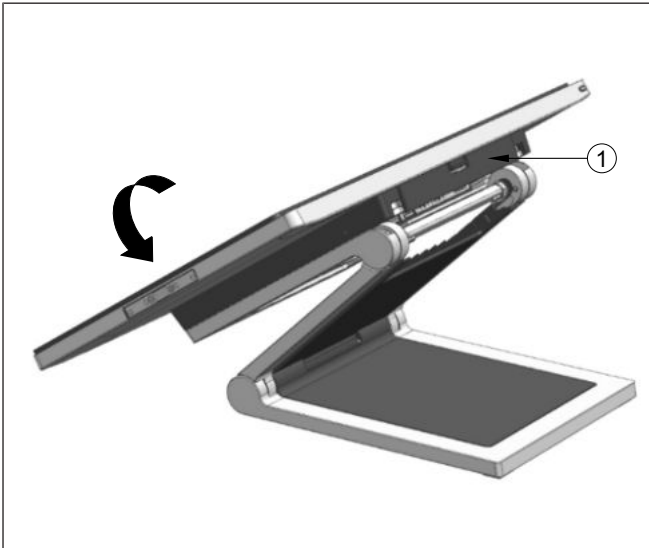
### 8.2.2.3 Installing system to the stand



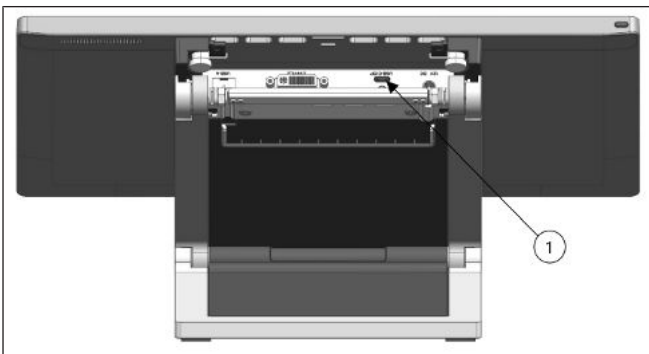
1. Fit the system on the stand while holding it in place.



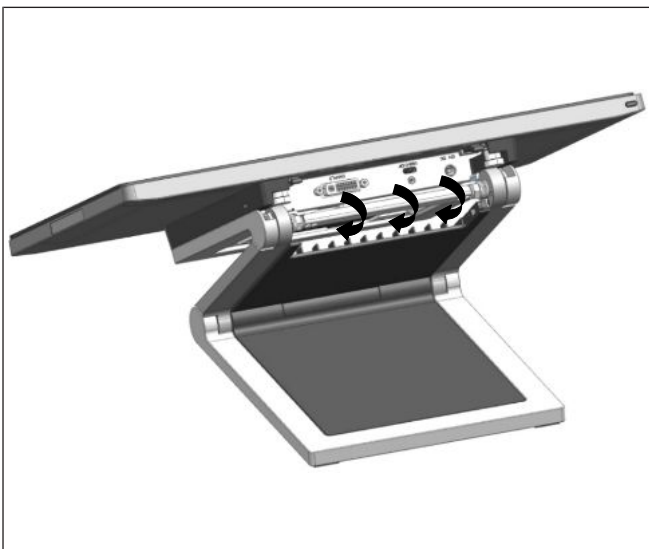
2. Tighten the 4 M4x6 countersunk screws (1) (that came with the stand) to secure the system to the stand.



3. Tilt the system back to access the connector panel at the bottom of the system display.
4. Remove the cable cover (1) at the bottom of the system display.



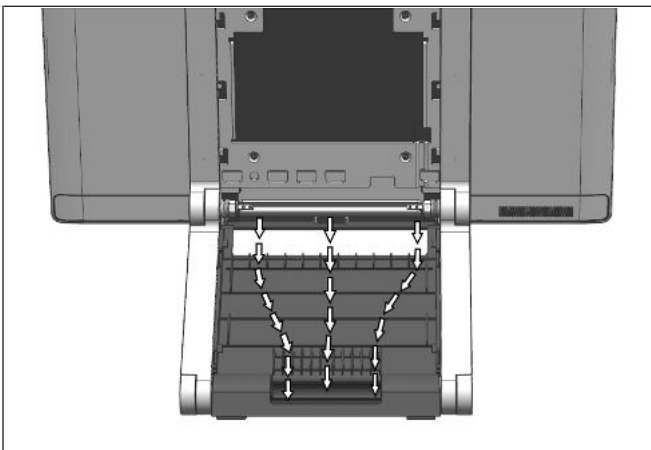
5. Plug the USB-C cable into the port indicated (1).



6. Route the cables from the connector panel in the path as illustrated (arrows).
7. Replace the cable cover previously removed.



8. Tilt the system back to its operating position

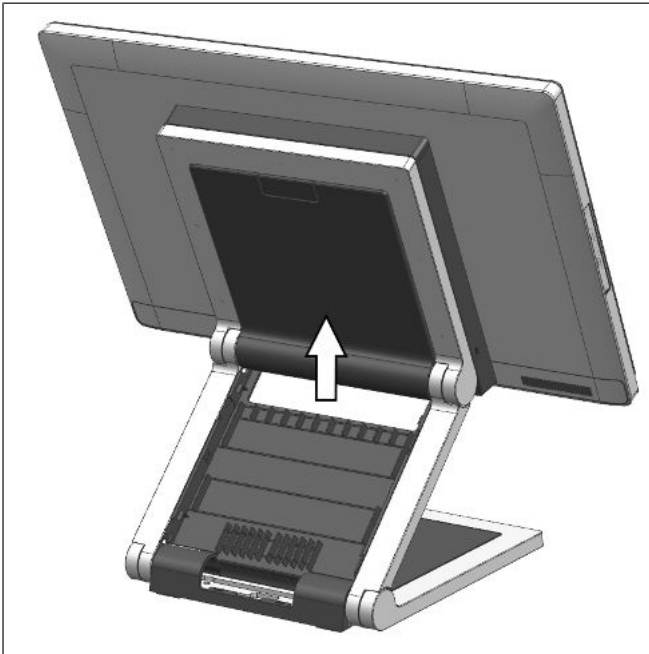


9. Tug the cables neatly into their respective cable channels as illustrated (arrows).

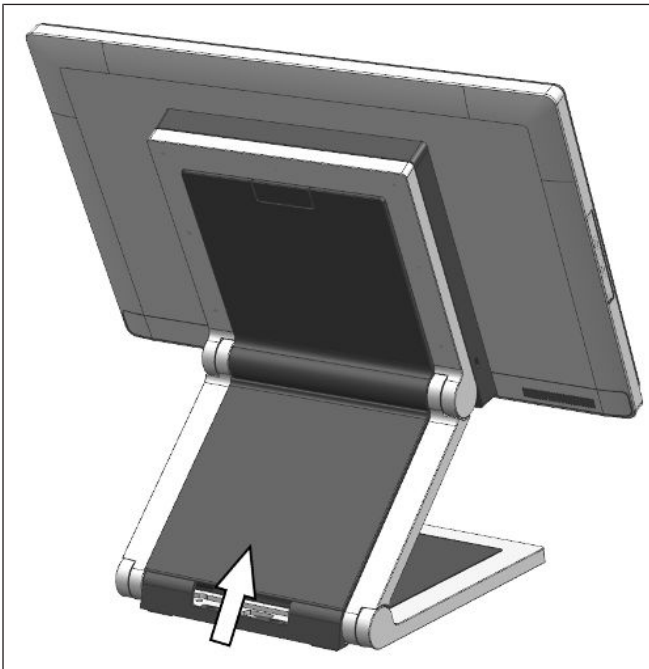
**NOTE**



The arrow paths are for illustration purpose only and are not meant to be exhaustive.



10. Replace the VESA cover by sliding it upwards.



11. Align the back cable cover (1) with the front cable cover (2).
12. Replace back cable cover (1) by sliding it upwards.

### 8.3 Connecting the display

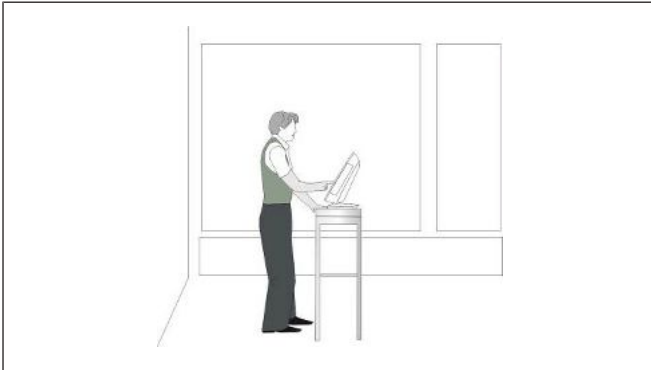


#### NOTE

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

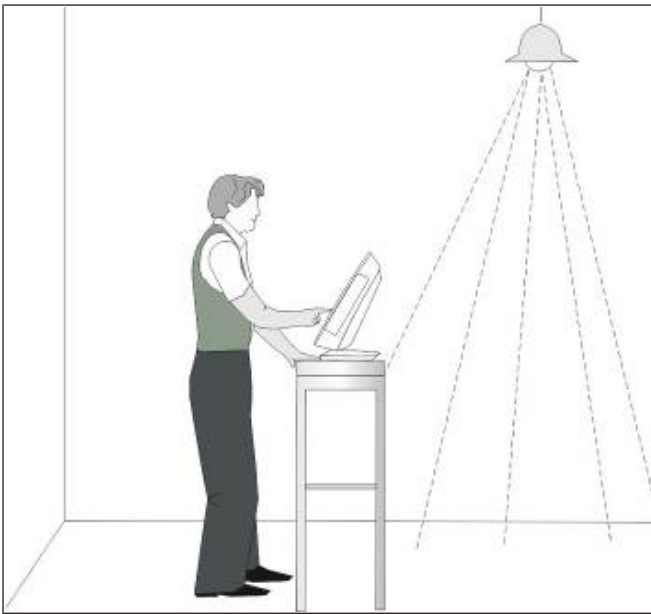


## 9 Ergonomic Terminal Workplace

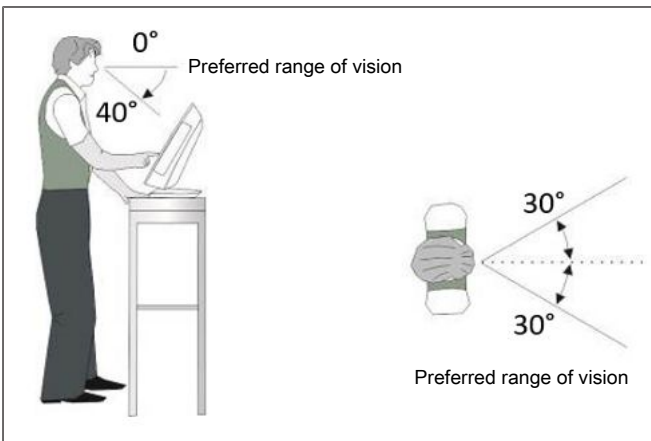


Please observe the following when setting up your terminal workplace:

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



Avoid reflective glaring caused by electric light sources.



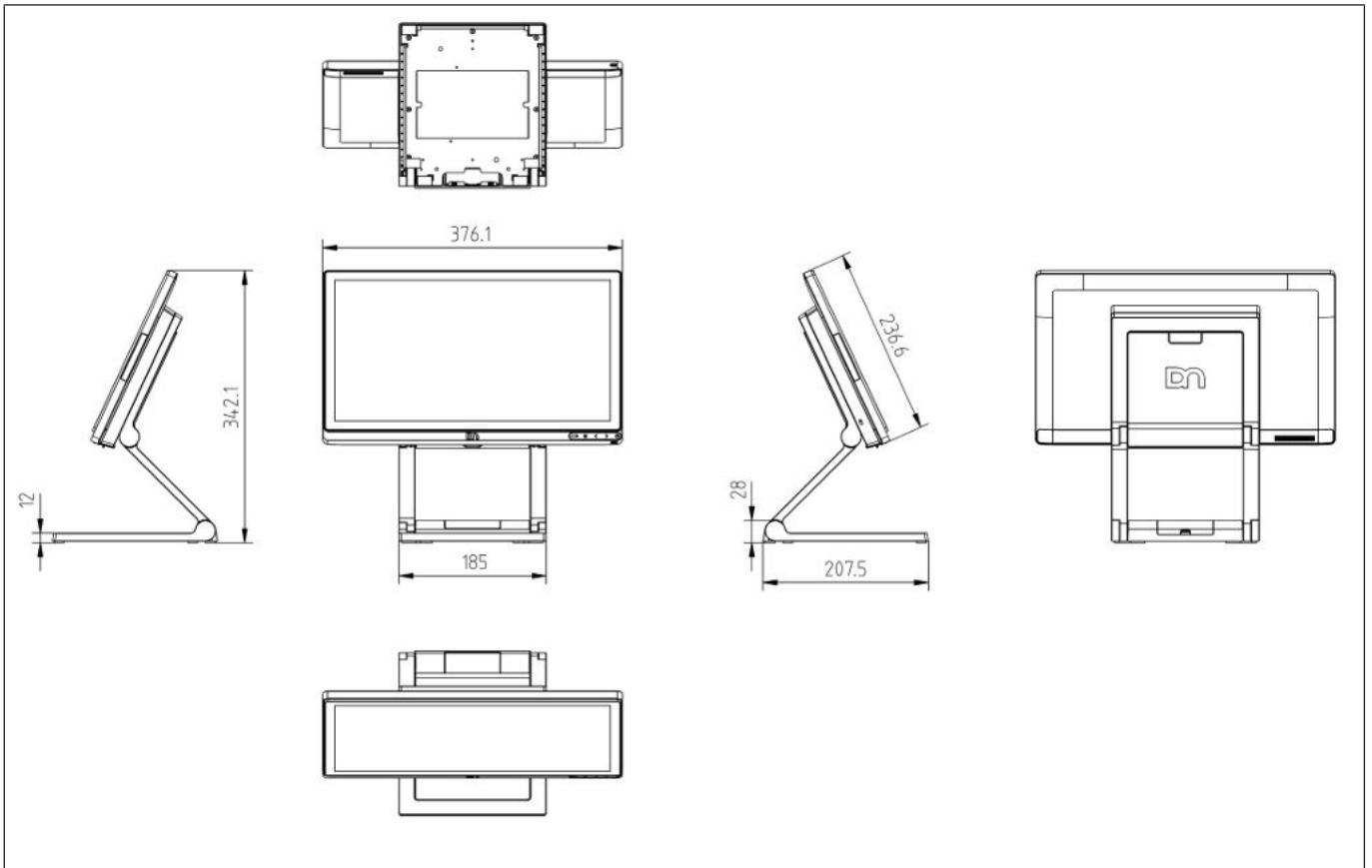
Position the screen within a preferred and permitted range of vision, so that you can look vertically onto the screen.

# 10 Technical data

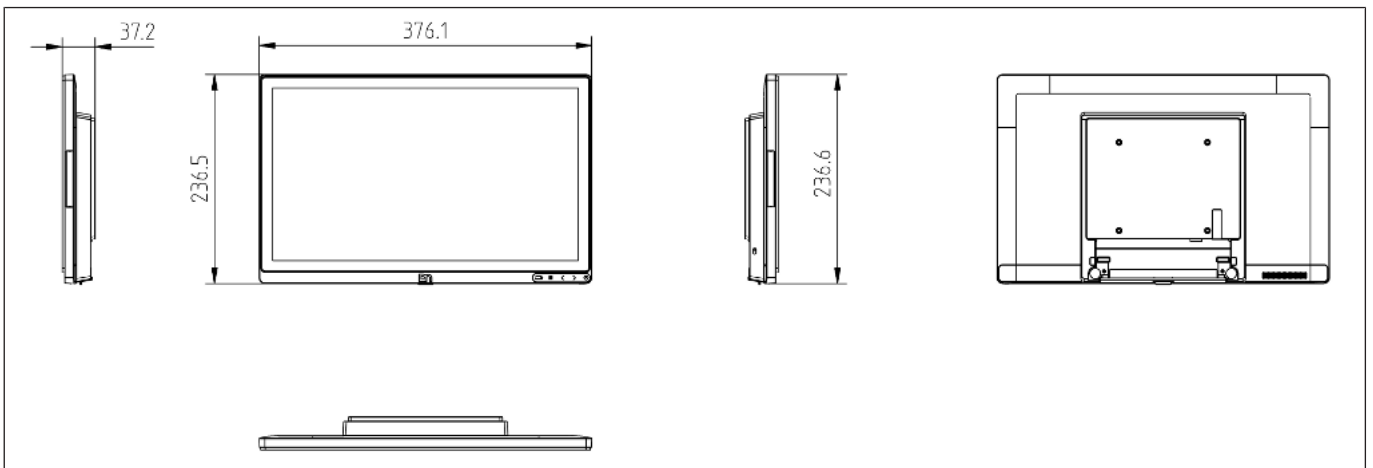
Model		D1156
Dimensions	Diagonal screen	15.6" (39.6 cm)
	Active screen (mm) horizontal x vertical	344.16 mm x 193.59 mm
	Cable length	up to 5m
	Display housing width x height x depth (mm)	376x236x38
Weight	without base	2.0kg
	with base	3.8kg
Climate class		IEC 721 3/3 Class 3K3
Operating temperature		+ 5 °C to + 40 °C
Humidity		5% to 85% Absolute humidity 1g/m <sup>3</sup> to 25g/m <sup>3</sup> Condensation is not permitted
Frequencies	Horizontal (KHz)	67.5
	Vertical (Hz)	60.0
Native resolution	Horizontal (Pixel)	1920
	Vertical (Pixel)	1080
	Color depth	Up to 16.7 Mio.
Pixel format (approx. in mm)		0.17925x0.17925
Graphic interface	internal	LVDS
	external	PLINK2, DVI-D, USB-C DP
Viewing angle	Horizontal	85 ° / 85 °
	Vertical	85 ° / 85 °
Brightness	Projected Capacitive	400 cd/ m <sup>2</sup>
	Non-Touch	400 cd/ m <sup>2</sup>
Contrast	Projected Capacitive	1000:1
	Non-Touch	1000:1
Backlight		LED
Power consumption	Typical	7.8 W
	Maximum	15 W

## 10.1 Dimensions (mm)

### D1156 with stand





### D1156 with wall mount



## 10.2 Projected Capacitive Touch Screen

Resolutions	Horizontal	1024
	Vertical	1024
Touch Technology		Projected Capacitive
Surface		Anti-glare
Data transfer		USB
Multi Touch		5-points Touch (Gestures Supported)

## 10.3 Supported resolution

	 <b>WARNING</b>
	<p>Scaling to any display resolution other than recommended panel native resolution (highlighted with **) will result in lower display quality like uneven character/spacing.</p>

### D1156

Resolution	Refresh Rate	Horizontal Sync	Vertical Sync
		Frequency (KHz)	Frequency (Hz)
720 x 400	70Hz	31.467	70.080
640 x 480	60Hz	31.469	59.940
800 x 600	60Hz	37.879	60.317
1024 x 768	60Hz	48.363	60.004
1280 x 720	60Hz	45.000	60.000
1280 x 1024	60Hz	63.981	60.020
1440 x 900	60Hz	55.935	59.887
1680 x 1050	60Hz	65.290	59.954
1920 x 1080 (Native)	60Hz	67.500	60.000

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# Abbreviation Index

## **CE**

European Symbol of Conformity

## **cUL**

Canadian Registration DIN (Recognized by UL)

## **DIN**

Deutsche Industrie Norm (German Institute for Industrial Standards)

## **DVI-D**

Digital Visual Interface Digital

## **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

## **POS**

Point Of Sales

## **SVGA**

Super Video Graphics Array

## **TFT**

Thin Film Transistor Technology (LCD Technology)

## **UL**

Underwriters Laboratory (standards)

## **USB**

Universal Serial Bus

## **VDE**

Verband Deutscher Elektrotechniker (German Electricians Association)

## **VESA**

Video Electronics Standard Association

## **VGA**

Video Graphics Array

## **XGA**

Extended Graphics Array

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