Site Preparation Guide

NCR RealPOS XR7 Plus (7703)

Release 1.2

BCC5–0000–5136
Issue B

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Preface

Audience

This book is written for hardware installer/service personnel, system integrators, and field engineers.

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Safety Requirements

The *NCR RealPOS XR7 Plus* conforms to all applicable legal requirements. To view the compliance statements see the *NCR RealPOS Terminals Safety and Regulatory Statements (B005–0000–1589)*.

Caution: The on/off switch is a logic switch only. The AC line voltage primaries are live at all times when the power cord is connected. Therefore, disconnect the AC power cord before opening the unit to install features or service this terminal.

Lithium Battery Warning

Warning: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Attention: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

Battery Disposal (Switzerland)

Refer to Annex 4.10 of SR814.013 for battery disposal.

IT Power System

This product is suitable for connection to an IT power system with a phase-to-phase voltage not exceeding 240 V.

Peripheral Usage

This terminal should only be used with peripheral devices that are certified by the appropriate safety agency for the country of installation (UL, CSA, TUV, VDE) or those which are recommended by NCR Corporation.

Warning: DO NOT connect or disconnect the transaction printer while the terminal is connected to AC power. This can result in system or printer damage.

Warning: DO NOT connect or disconnect any serial peripherals while the terminal is connected to AC power. This can result in system or printer damage.

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock.

The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor.

If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if you are in doubt as to whether the product is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the product's plug. **Repair or replace damaged or worn cords immediately.**

References

- *NCR RealPOS XR7 Plus (7703) POS Site Preparation Guide* (BCC5-0000-5136)
- *7703 Service Guide* (BCC5–0000–5137)
- *7703 Parts Identification Manual* (BCC5–0000–5138)

Out of Box Failure (OBF)

If you experience an out of box failure (OBF) during installation or staging related to a missing, wrong or defective unit or item, simply provide NCR with a detailed description of the issue and the item will be replaced free of charge. For assistance with this process send an email to *CustomerSat.Retail@ncr.com* with the following details:

- NCR Sales Order # (Sales Order # are located on the box)
- Date of Product Installation
- Product Model #
- Unit Serial #
- NCR part # of defective/missing/wrong component
- Description of Failure (please be specific. For example: "display will not power on")
- Customer/Requestor's contact name, phone number and/or e-mail address
- Address to ship replacement part(s)

Transport the product in its original packaging to prevent impact damages.

If you do not have access to a computer, you may leave a voice message at: 1-800-528-8658 (USA), or (International) +1-770-623-7400. When leaving a message, please provide a phone number and/or an email address so NCR can contact you if additional details are needed.

Note: Used equipment that experiences a failure does not qualify as an OBF and should go through the NCR warranty process.

Warranty

Warranty terms vary by region and country.

All parts of this product that are subject to normal wear and tear are not included in the warranty. In general, damages due to the following are not covered by the warranty.

- Improper or insufficient maintenance
- Improper use or unauthorized modifications of the product.
- Inadequate location or surroundings. Site installation must conform to guidelines listed in the *NCR RealPOS XR7 Plus (7703) POS Site Preparation Guide* (BCC5-0000-5136) and the *NCR Workstation and Peripheral AC Wiring Guide* (BST0-2115-53).

For detailed warranty arrangements please consult your contract documents.

Returning Defective Hardware for Service

Use the following procedure to report/return defective hardware.

Call the *NCR Customer Care Center* at 1-800-262-7782 and have the following information available when you place the call.

- Class/Model number of the defective equipment
- Serial Number of the defective equipment
- Equipment location in the store
- Description of the problem, including any system error codes, error condition, or guidance to the area of failure.

The NCR Agent will provide you with a work order number, which serves as your Return Material Authorization (RMA). Please provide the RMA on the outside of the shipping box.

Note: A work order must be opened for each device that is shipped for repair.

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Revision Record

Issue	Date	Remarks
A	Nov 2016	First Issue
B	June 2017	Release 1.2

NCR RealPOS XR7 Plus (7703) POS Site Preparation

Introduction

This chapter provides the information necessary to prepare a site to NCR specifications prior to installing an *NCR RealPOS XR7 Plus (7703)* terminal. Prepare the site properly before installing the terminal.

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This is a contractual document. It contains important warnings and confers important legal rights and obligations. You are advised to read it carefully.

It is the responsibility of the customer to ensure that all installation preparations are complete and in compliance with NCR specifications and requirements and all applicable national, state, or local codes, regulations, and laws.

About this Document

This document provides site preparation information for *NCR RealPOS XR7 Plus (7703)* components but does NOT provide Peripheral component and AC wiring site preparation information.

This document contains the information necessary for the preparation of a site conforming to the NCR specifications. It is very important that the site complies with the requirements specified in the document because, once the equipment has been installed, deficiencies in site preparation or the problems caused by these deficiencies are much more difficult to detect and correct. Further, failure to comply with these requirements or to take proper steps to protect equipment against risks identified in this document may cause serious damage to the equipment and to the customers business.

In addition to the need to comply with the requirements specified, electrical wiring and mechanical systems must also comply with all relevant codes, laws, and regulations.

It is important that a customer or his agent who is fully conversant with the special requirements of electronic equipment prepare the site. The responsibility of ensuring that the site is prepared in compliance with this document remains with the customer.

For information and guidance purposes only, a list is provided, in general terms, of those matters for which the customer is responsible. This list does not intend to be comprehensive, and in no way modifies, alters, or limits the responsibility of the customer for all aspects of adequate site preparation.

NCR staff is available to answer questions relating to the contents of this document except where:

- a customer has been notified that a full or partial consultancy service is available and/or that NCR is willing to undertake a preliminary or final site survey and
- the customer shall have entered into a formal contract with NCR for provision of the same.

No comment, suggestion, or advice offered or not offered about preparation of the site nor any inspection of the site whether before or after preparation is to be taken as approval of the location of the site and equipment or its preparation and NCR is not liable in respect of any comment, suggestion, or advice given by its staff or in respect to any failure to give advice.

Finally, only the customer can know the full extent of damage, which may be caused to his business because of failure of the equipment that is to be installed. For this reason, it is the customer's responsibility to ascertain the extent of any possible damage to his existing or planned business, and to effect full insurance in respect of it.

Customer Responsibilities

Before installing the system, the customer must perform or provide the following:

- When required by NCR, provide the NCR Customer Services representative with appropriate drawings that indicate:
- Equipment location
- Site wiring (power and communications, paths and lengths)
- Location of other equipment that may generate electrical noise, electromagnetic interference, or heat
- Make building alterations necessary to meet wiring and other site requirements
- Provide and install all communications cables, wall jacks, special connectors, and associated hardware
- Provide and install necessary power distribution boxes, conduits, grounds, lightning protection devices, and associated hardware
- Ensure all applicable codes, regulations, and laws (including, but not limited to, electrical, building, safety, and health) are met
- Provide and install auxiliary power or other equipment as required
- Provide storage or service areas as required
- Meet all system/unit environmental requirements
- Provide and install floor coverings and environment systems that limit or control static electricity build-up and discharge

In general, keep the NCR equipment area free from dust, smoke, lint, and other particles. Restrict smoking, eating, and drinking around the equipment. Avoid locating the equipment near other machines that generate ink, carbon, and paper dust particles.

Third Party Peripheral Certification

Third party peripherals must be certified with the POS terminal or a potential ESD issue can occur. Third party peripherals include any electrically powered devices connected to the POS terminal that is not an NCR branded product or a certified solution advocated by NCR. Examples of third party products include printers, external CD-ROM drives, cash drawers, cigarette boxes, pin pad devices, etc.

Peripherals tend to be less sensitive to electrostatic damage when directly grounded through their power cords. If the peripheral is powered by the terminal and has no dedicated ground, then all of the ESD energy is coupled into the port connection. Some devices may require the use of an in-line galvanic isolator/surge protector in order to prevent problems.

The NCR TPP/SCER process is designed to evaluate third party peripherals and determine whether additional protective devices are needed.

The *NCR Workstation and Peripherals AC Wiring Guide* (BST0-2115-53) contains additional information on this subject.

LAN Communications

The NCR 7703 Terminal supports Ethernet 10/100/1000baseT Local Area Network (LAN) communication protocol. For Ethernet communications wiring specifications, refer to the *NCR Ethernet Communication Wiring Guide* (BST0-2118-82).

Environmental Requirements

Barometric Pressure

The terminal operates within the following barometric pressure conditions:

- Maximum operating altitude: 3,000 m (9,843 ft.)
- Operating range of pressure: 105 to 69 kPa (15.2 to 10.0 lb./in.)

Temperature

The terminal operates over the temperature ranges shown below. Avoid continuous operation at, near the indicated temperature extremes, or in locations where the temperature changes beyond the restrictions.

Temperature Parameter	Restriction
Operating	10°C to 40°C (41°F to 104°F), dry bulb
Storage	-10°C to 50°C (14°F to 122°F), three months
Shipping	-40°C to 60°C (-40°F to 140°F), one week

Humidity

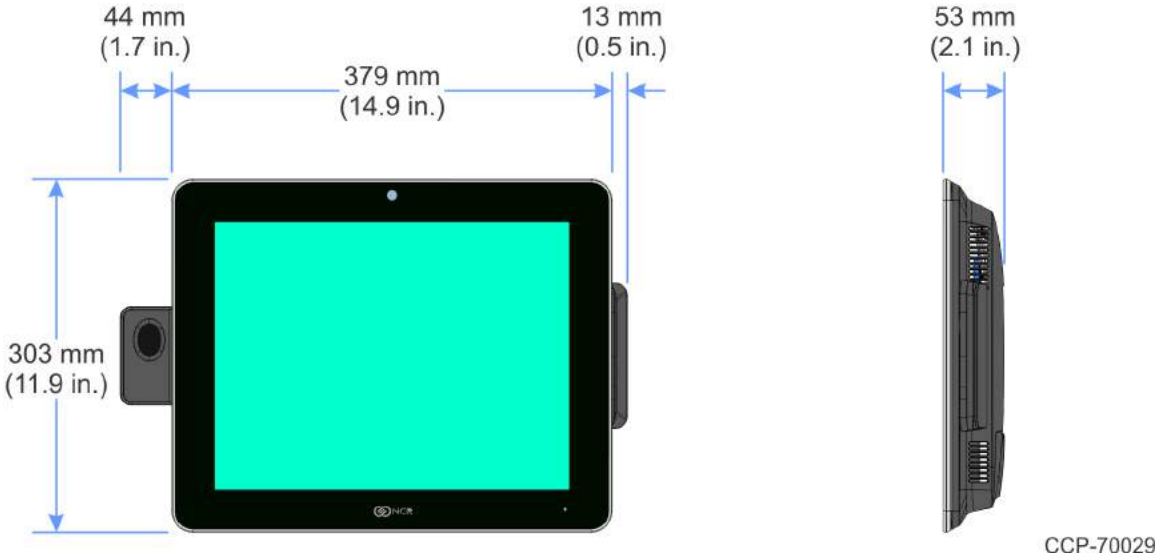
The terminal operates within the humidity ranges shown below. Avoid continuous operation at, near the indicated humidity extremes, or in locations where the humidity changes beyond the restrictions. Never expose the terminal to condensation.

Humidity Type	Restriction
Operating	20% to 80%
Maximum change rate	10%/60 minutes
Storage	10% to 90% relative humidity, three months
Shipping	5% to 95% relative humidity, one week

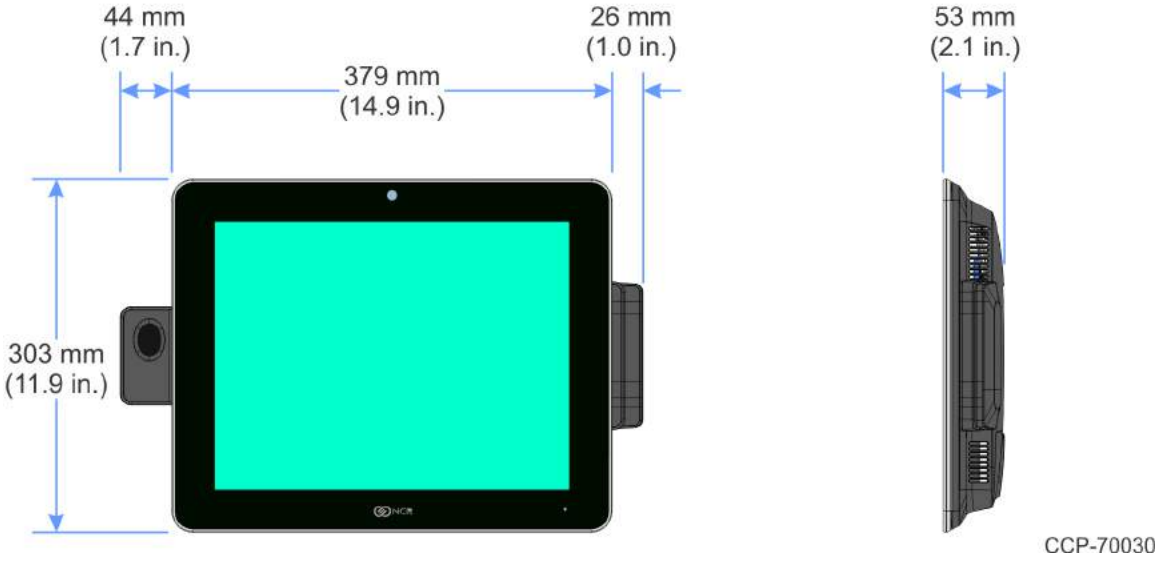
Dimensions

15-Inch 7703 Terminal

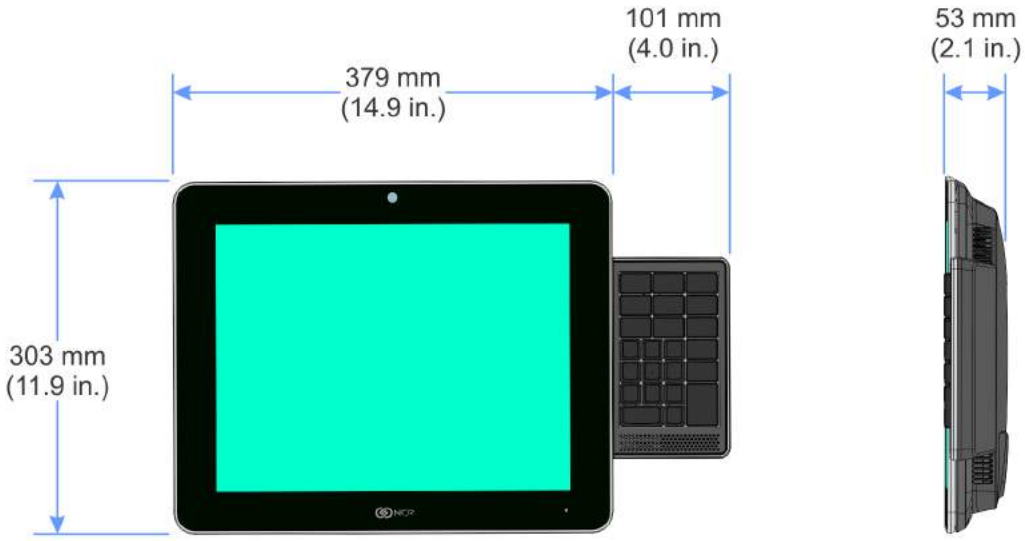
w/ Biometrics (F151) and MSR (F141)



w/ Biometrics (F151) and JIS MSR (F142)



w/ Keypad (F149)



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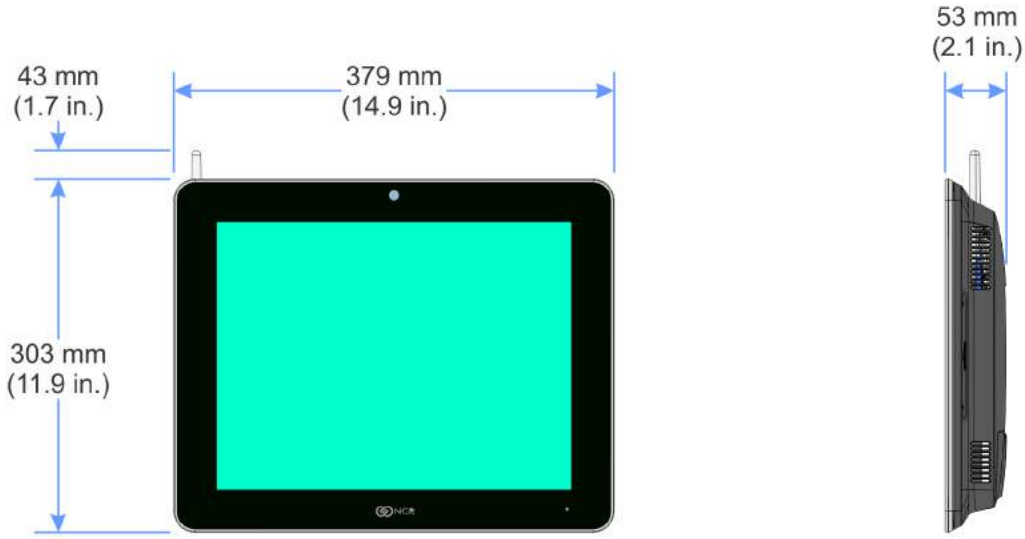
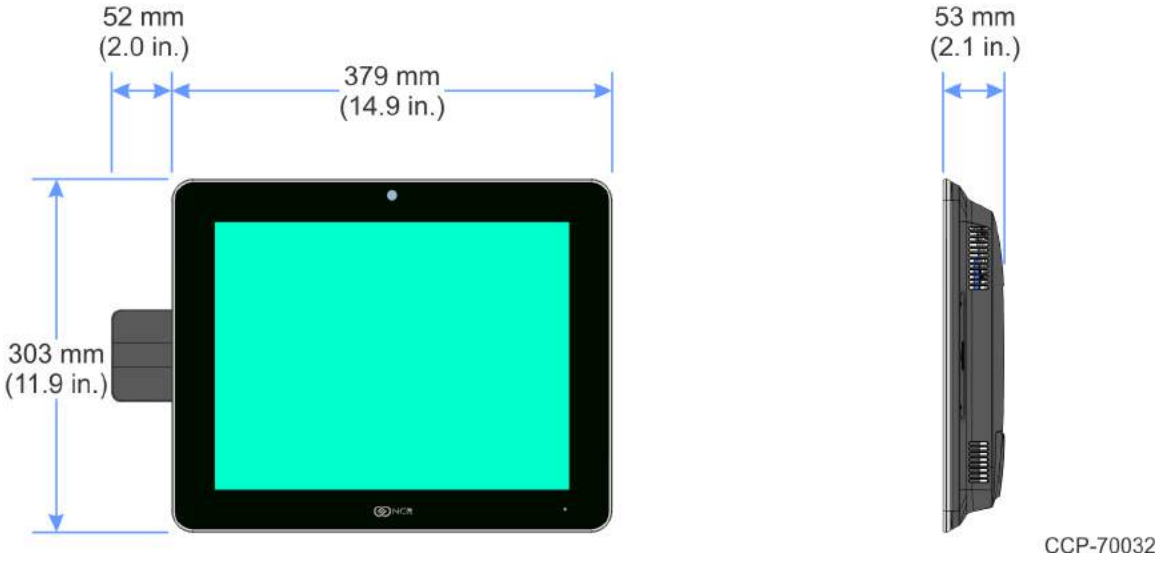
w/ Wireless Card and Antenna (F158)

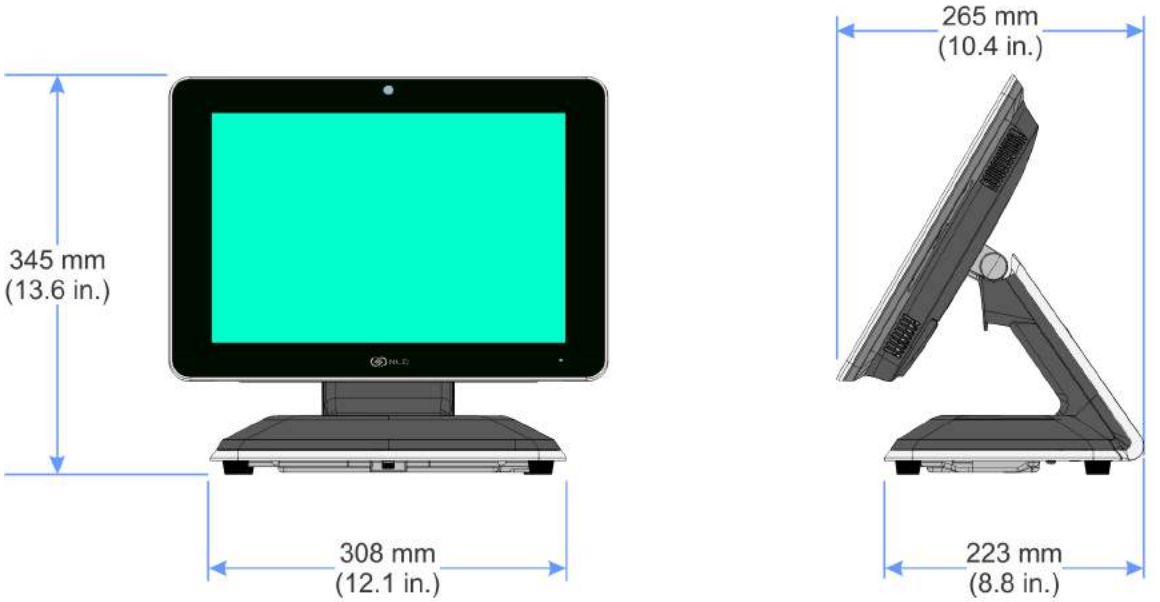


CCP-70031

w/ Side Mount Imager (F170) or Side Mount UV Bill Validator (F171)

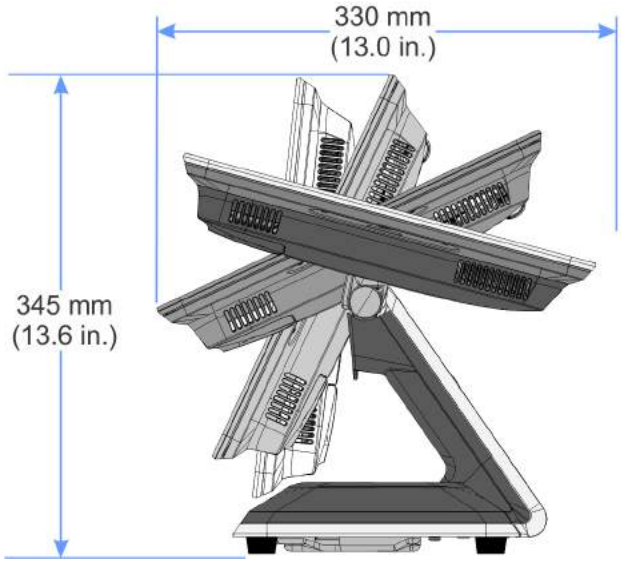


w/ Integrated Stand (F031)



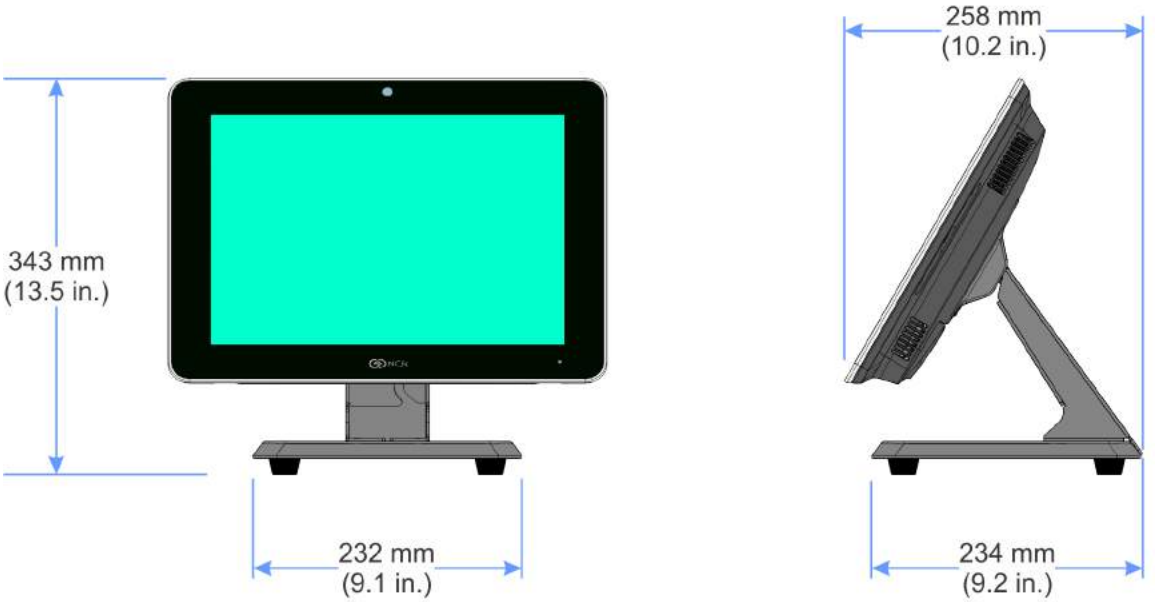
CCP-70028

Integrated Stand (F031) Tilt Angle (6˚ to 105˚)



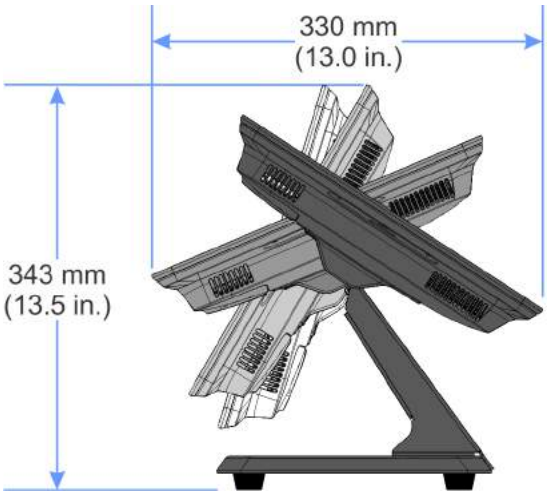
CCP-70033

w/ XL Stand (F033)



CCP-70784

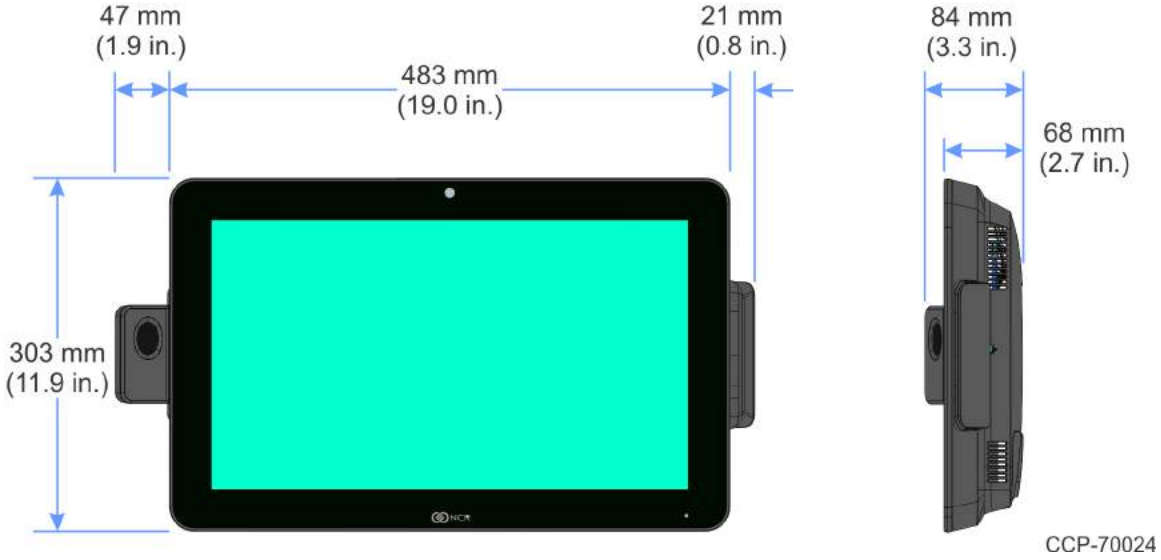
XL Stand (F033) Tilt Angle (17˚ to 123˚)



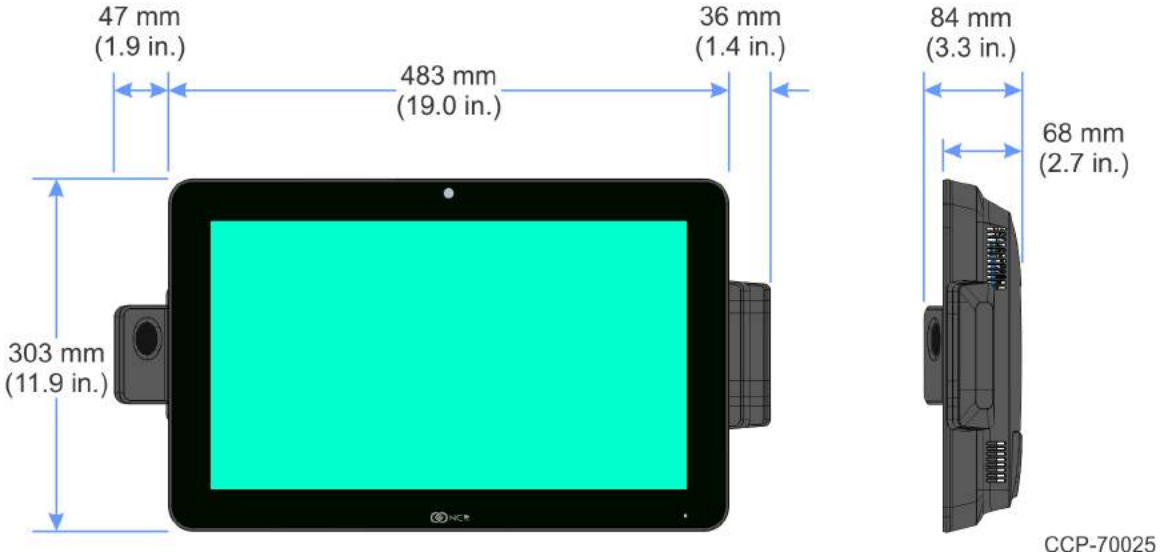
CCP-70787

18.5-Inch 7703 Terminal

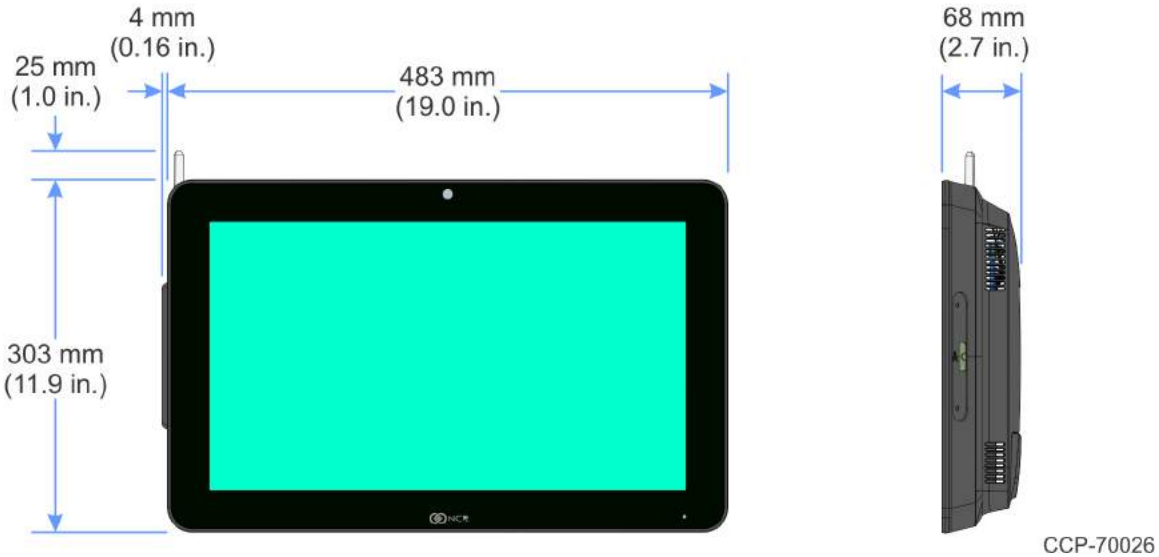
w/ Biometrics (F151) and MSR (F141)



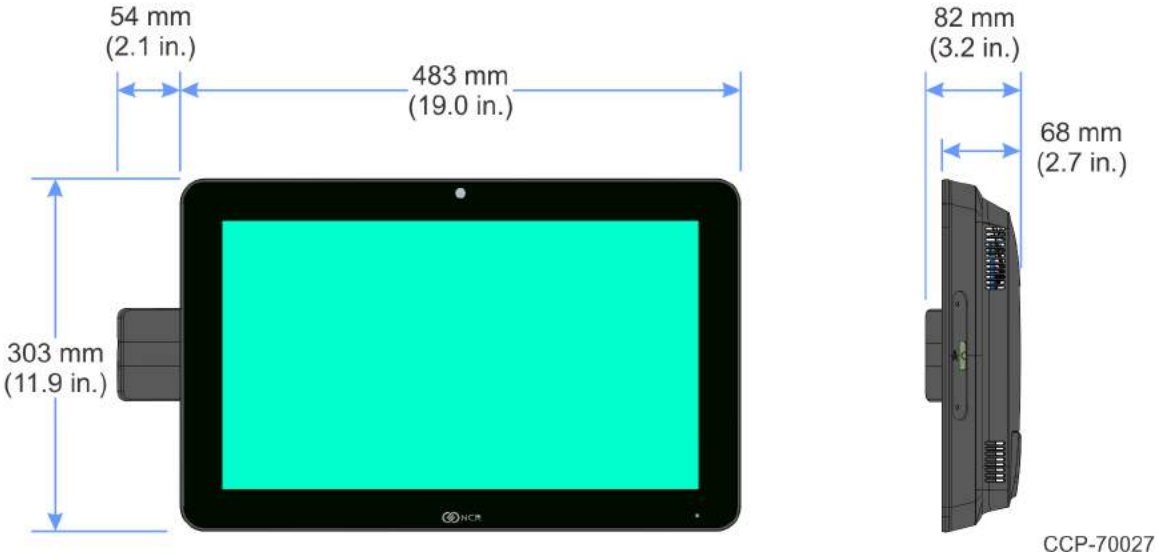
w/ Biometrics (F151) and JIS MSR (F142)



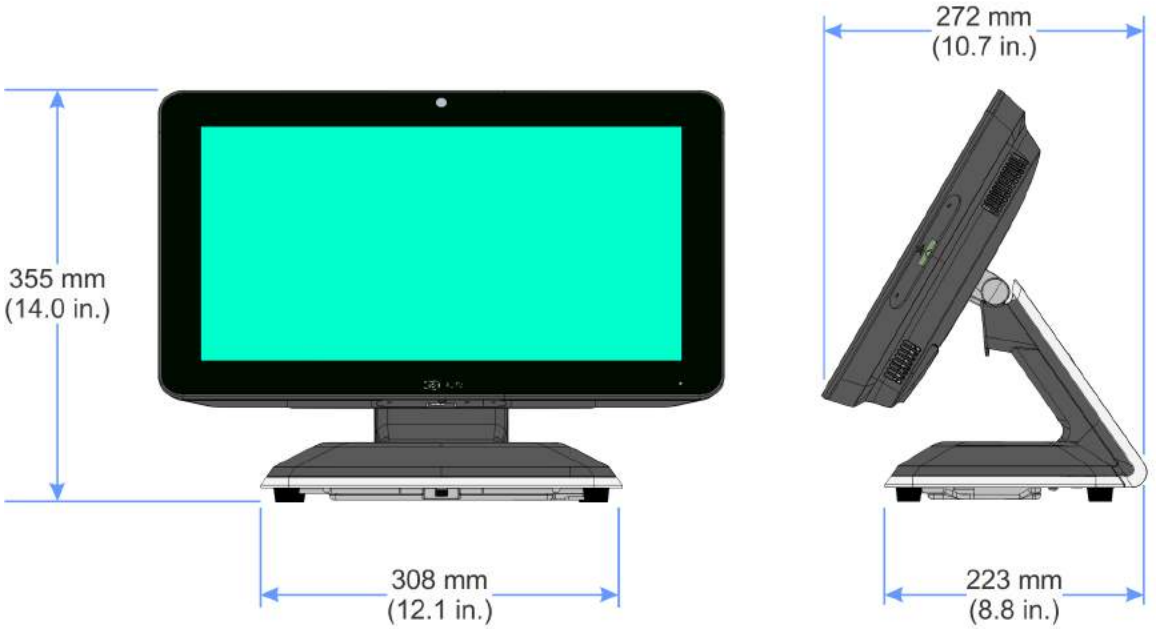
w/ Wireless Card and Antenna (F158)



w/ Side Mount Imager (F170) or Side Mount UV Bill Validator (F171)

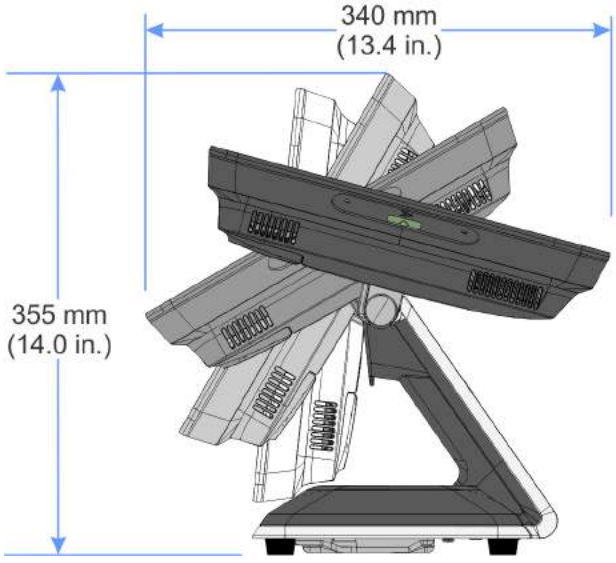


w/ Integrated Stand (F031)



CCP-70023

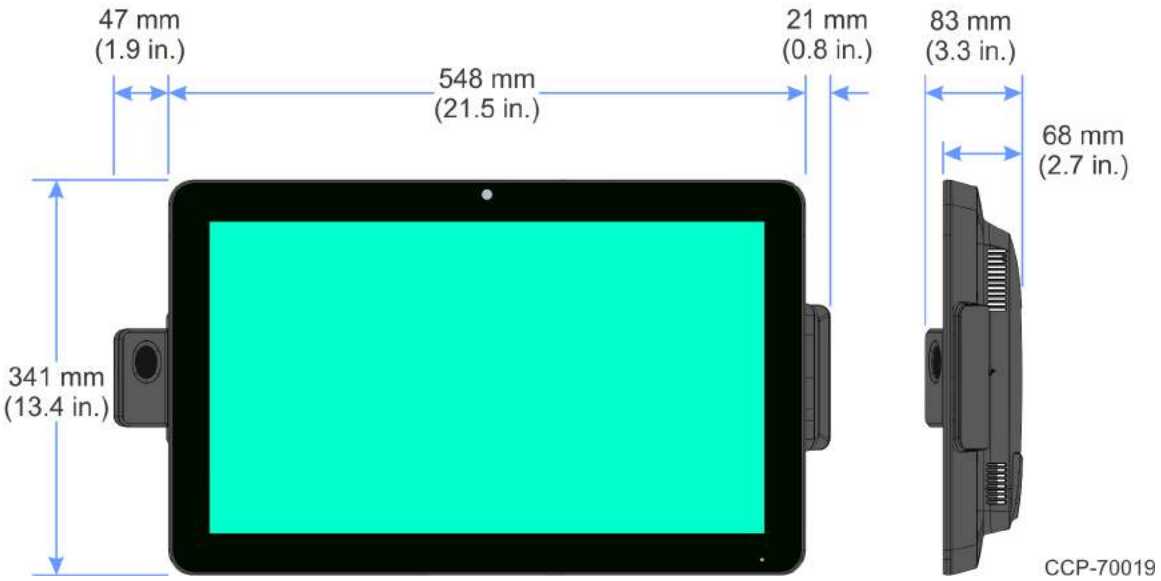
Integrated Stand (F031) Tilt Angle (6˚ to 105˚)



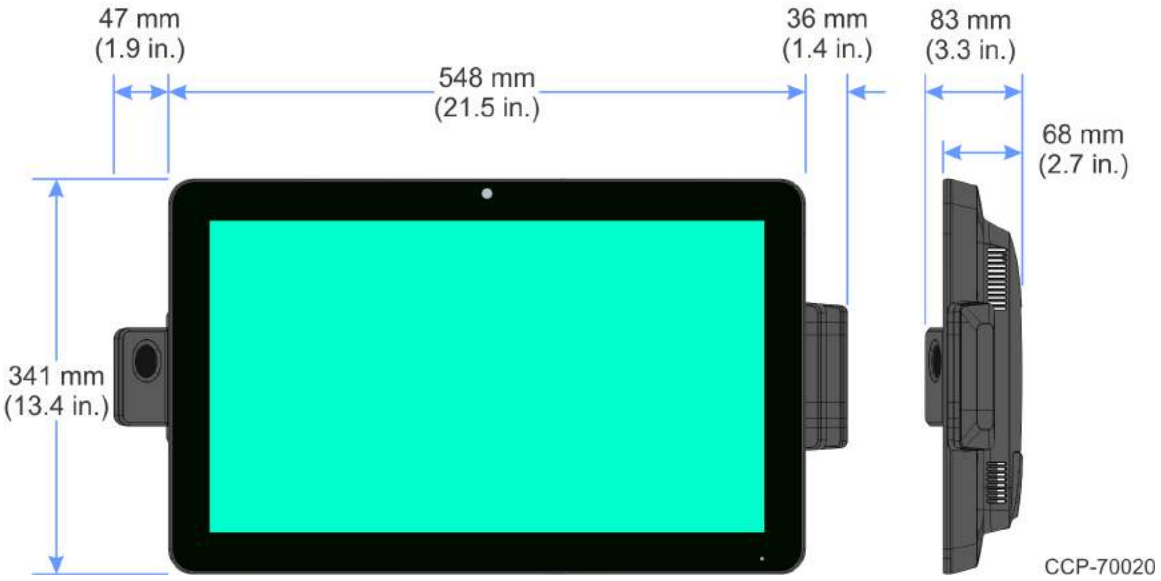
CCP-70034

21.5-Inch 7703 Terminal

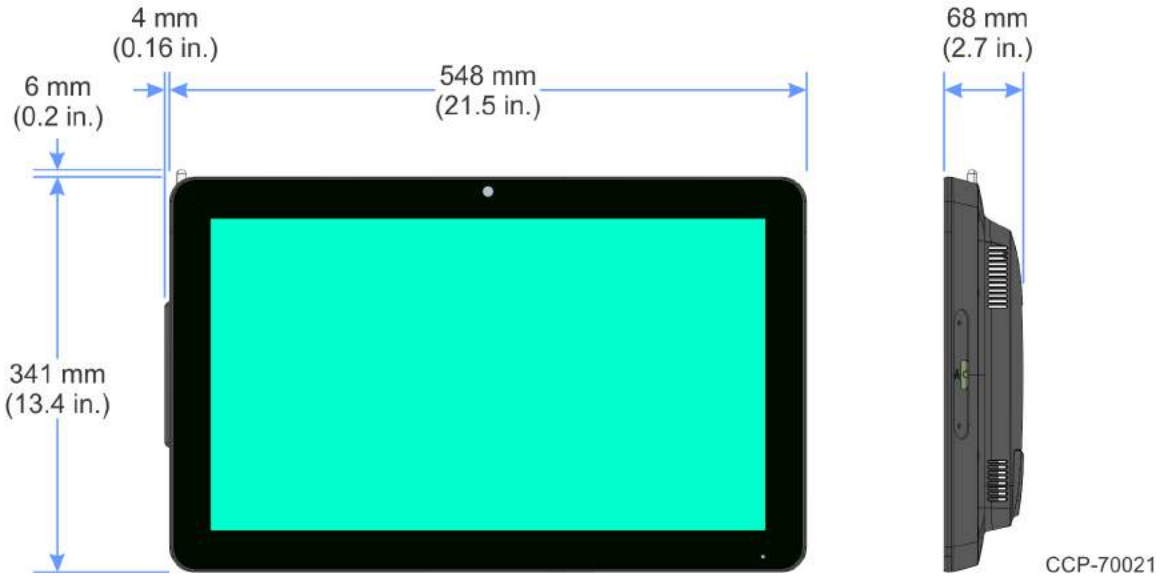
w/ Biometrics (F151) and MSR (F141)



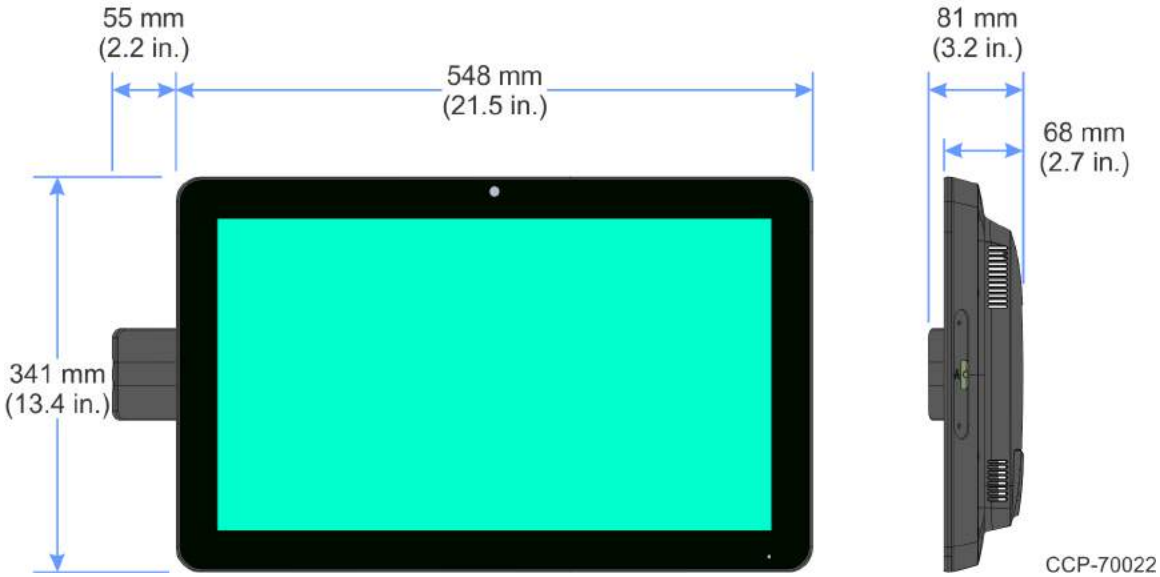
w/ Biometrics (F151) and JIS MSR (F142)



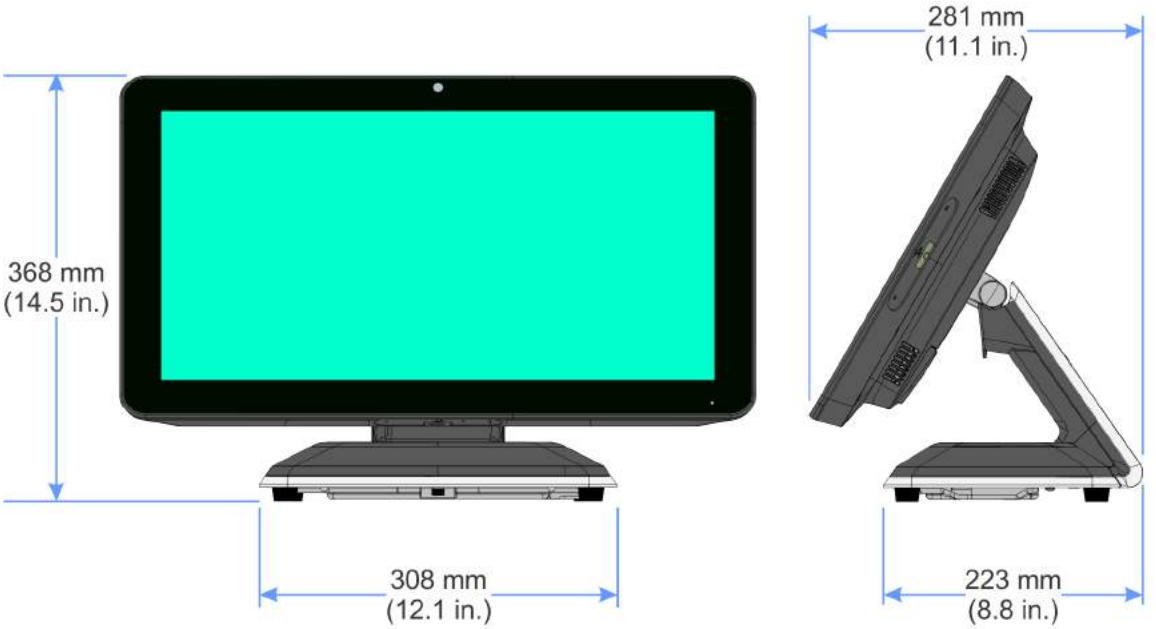
w/ Wireless Card and Antenna (F158)



w/ Side Mount Imager (F170) or Side Mount UV Bill Validator (F171)

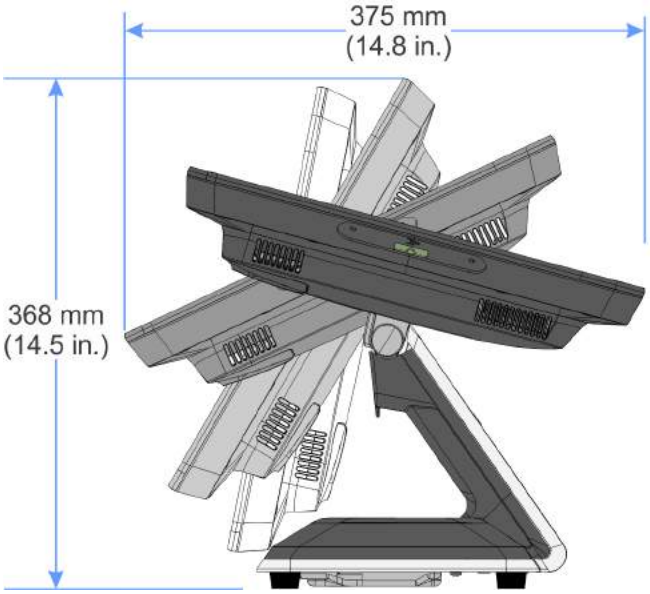


w/ Integrated Stand (F031)



CCP-70018

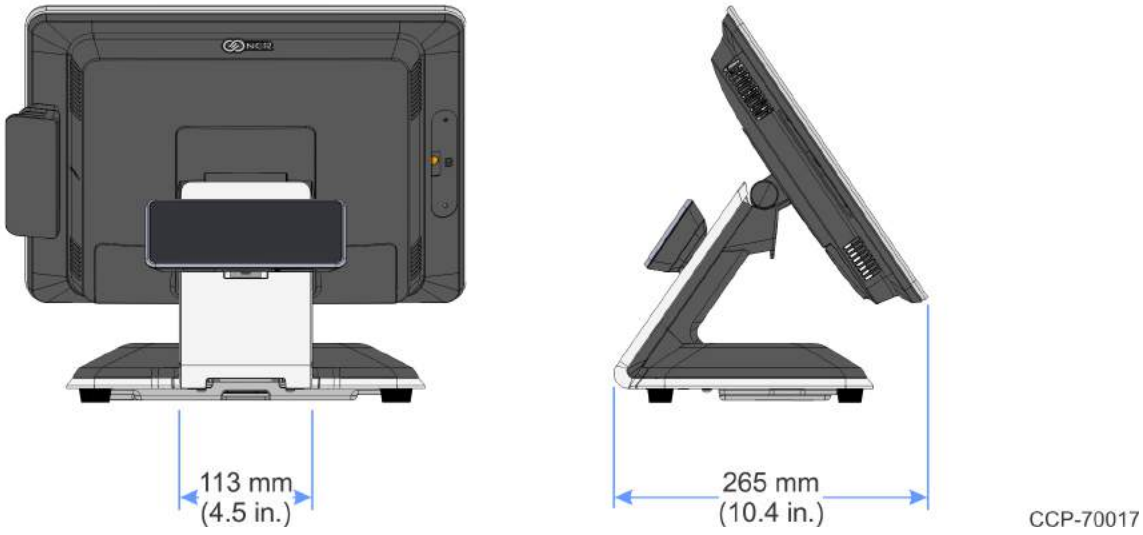
Integrated Stand (F031) Tilt Angle (11˚ to 105˚)



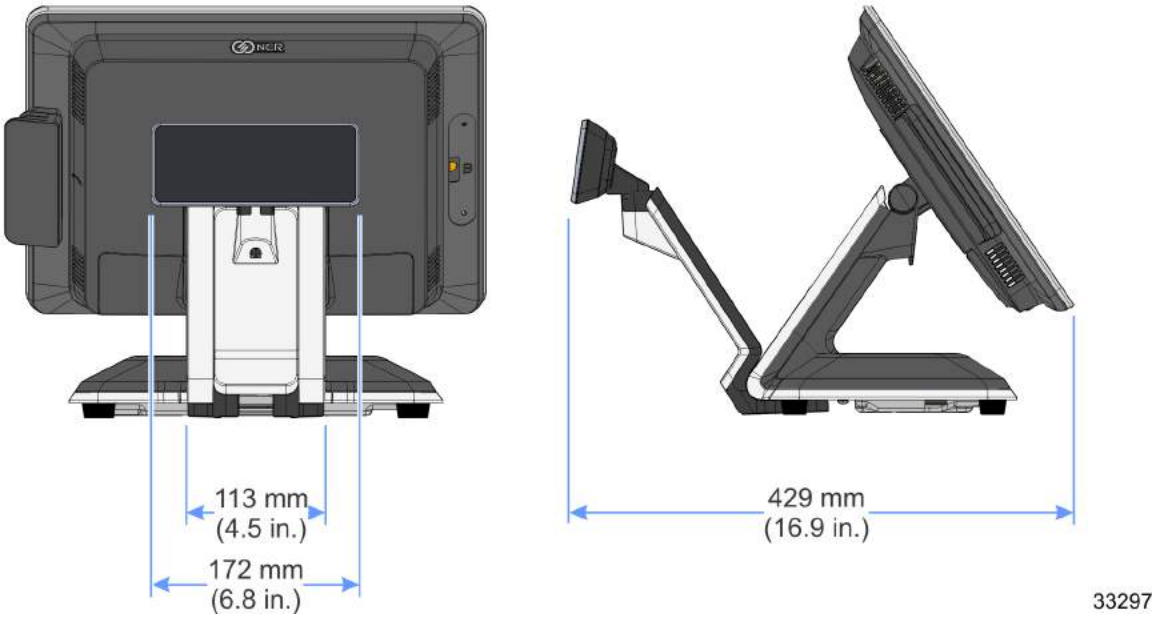
CCP-70035

Customer Display on Integrated Stand (F031)

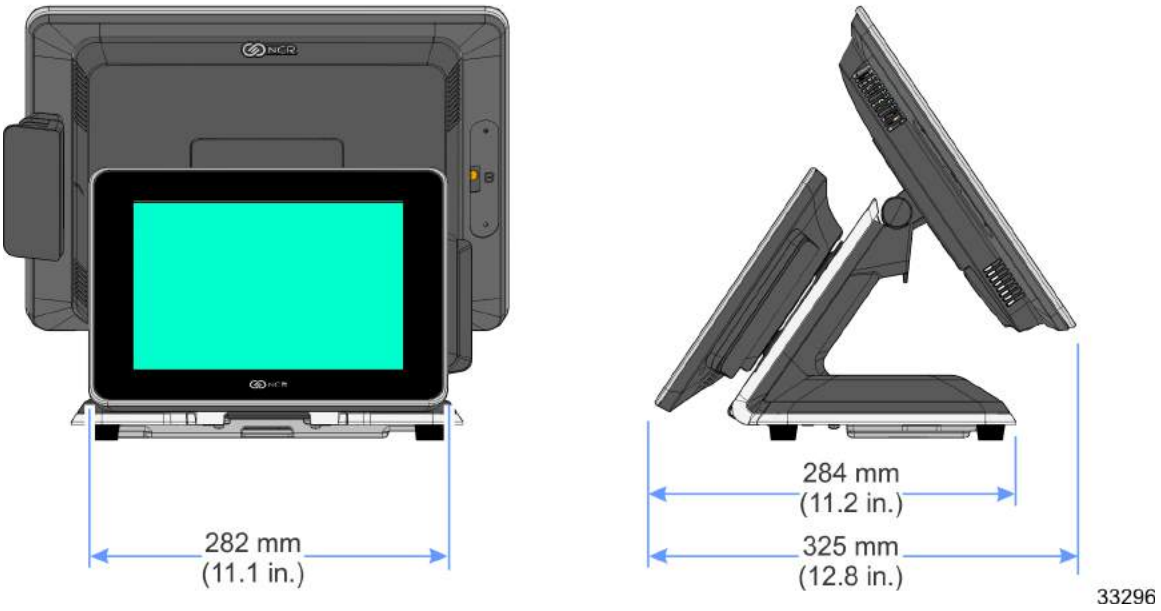
2x20 Customer Display (F450) or Graphical VFD Customer Display (F454)



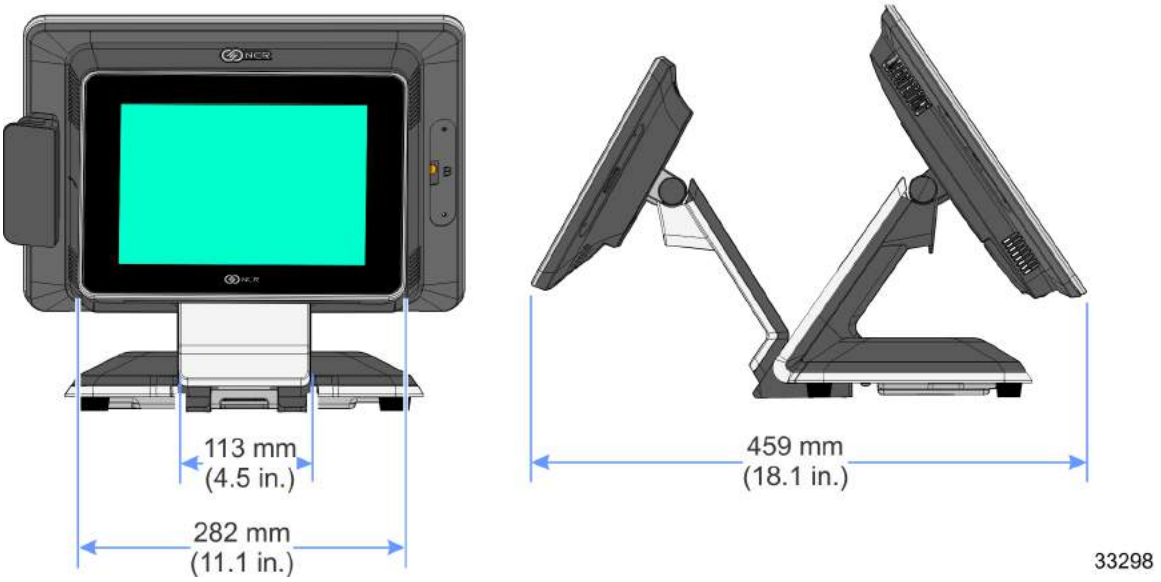
2x20 Customer Display on the Extension Arm (F451)



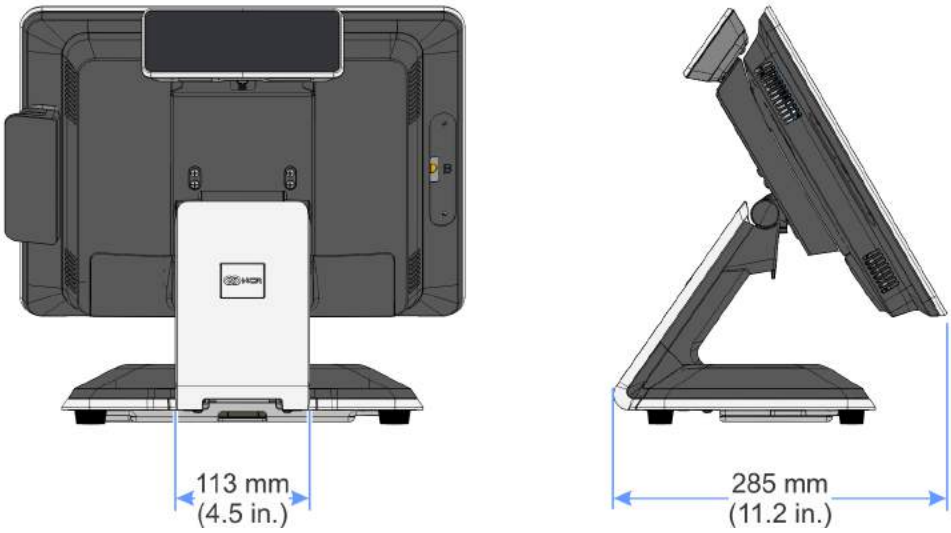
10.4-Inch Integrated Non-touch (F452) or PCAP (F459) or Resistive Touch (F461) Customer Display



10.4-Inch Customer Display on the Extension Arm (F453)

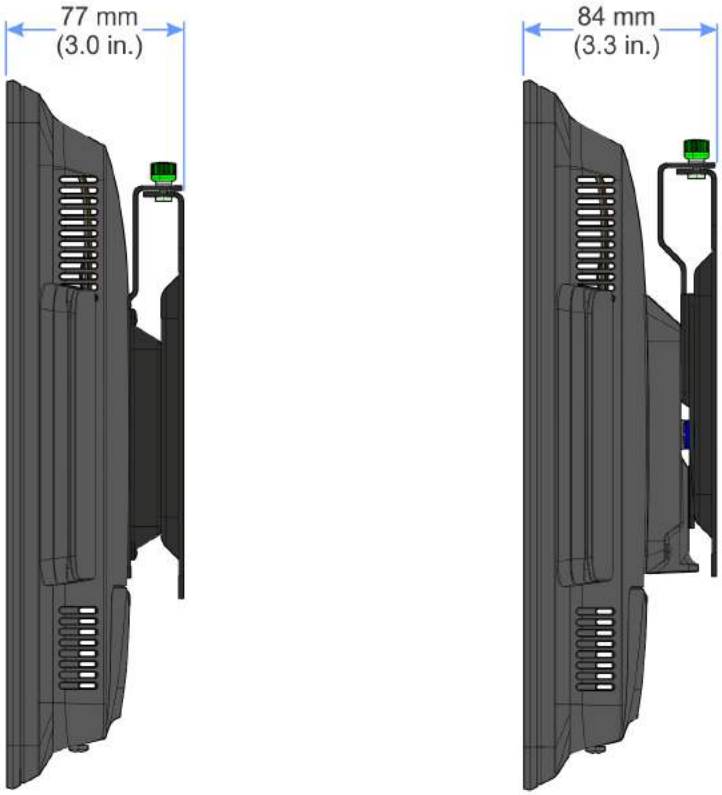


High Mount 2x20 Customer Display (F460)



CCP-70719

Flush Wall Mount Dimensions



Flush Wall Mount
(F320)

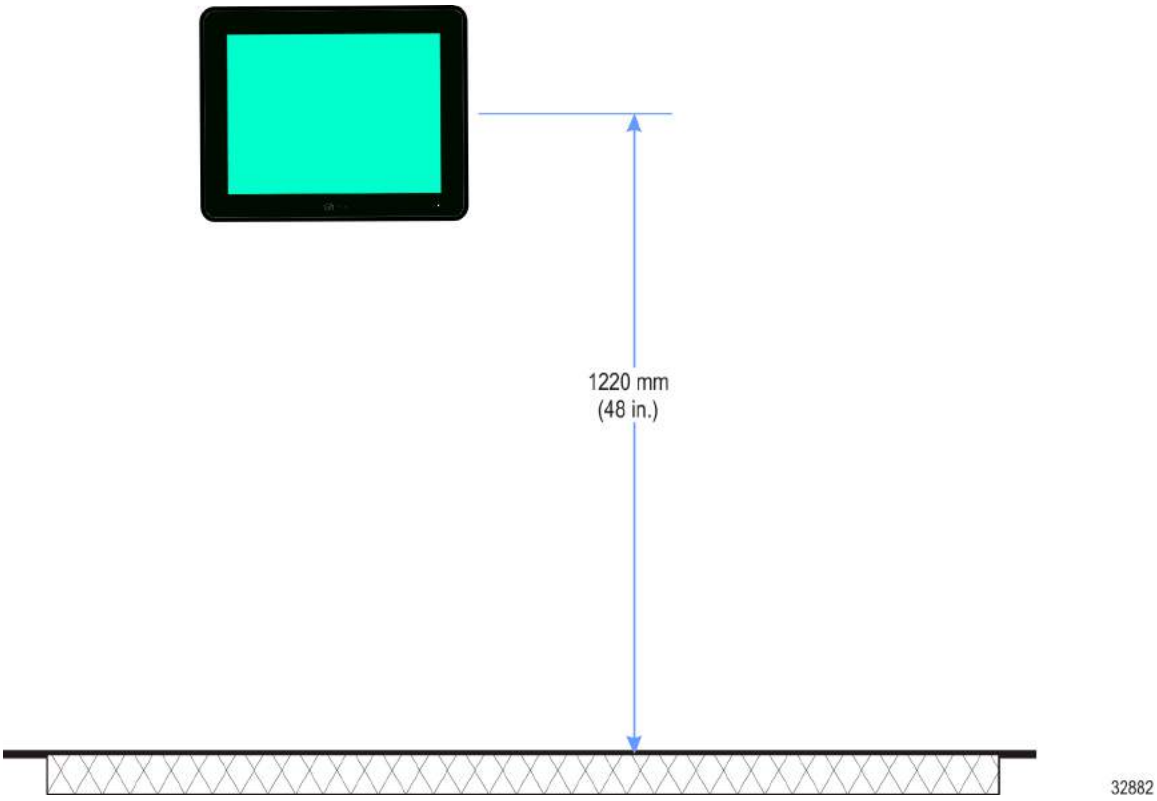
Flush Wall Mount w/ Serial Expansion
(F322)

CCP-70016

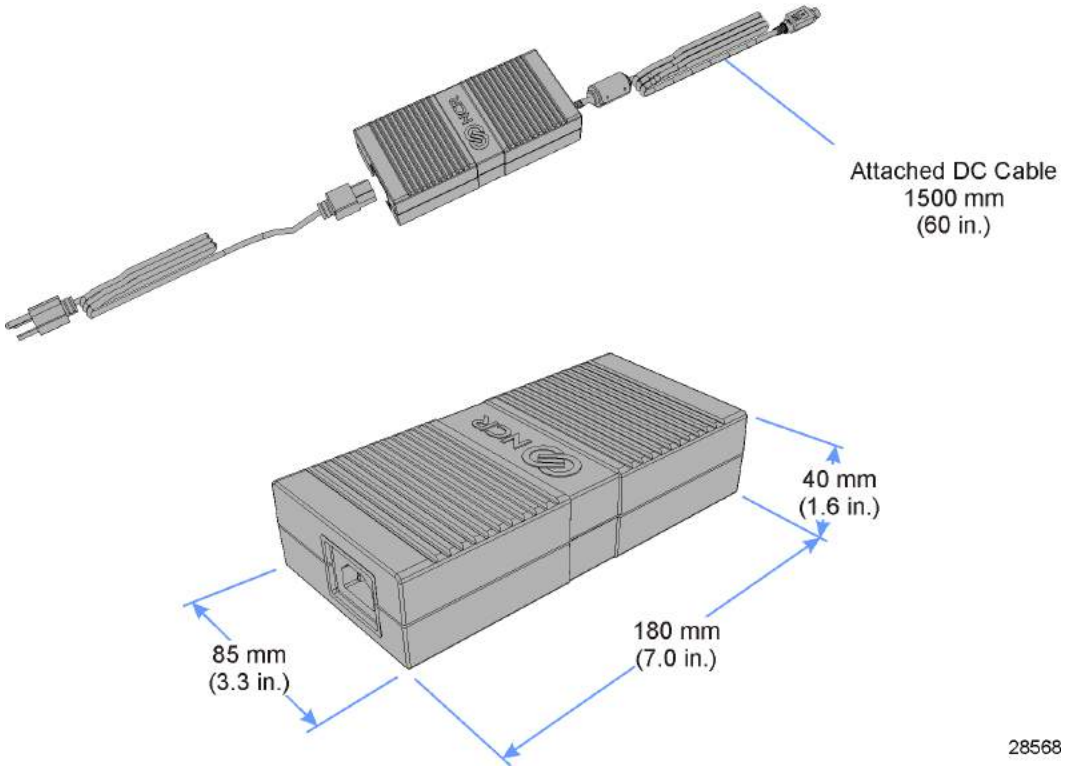
Mounting Height

The mounting height of the terminal should be appropriate for the majority of users.

Based on the recommendation of the ADA (America Disability Association), It is recommended that the system is approximately 1220 mm (48 in.) from the floor to the center of the display when the user is in the standing position.

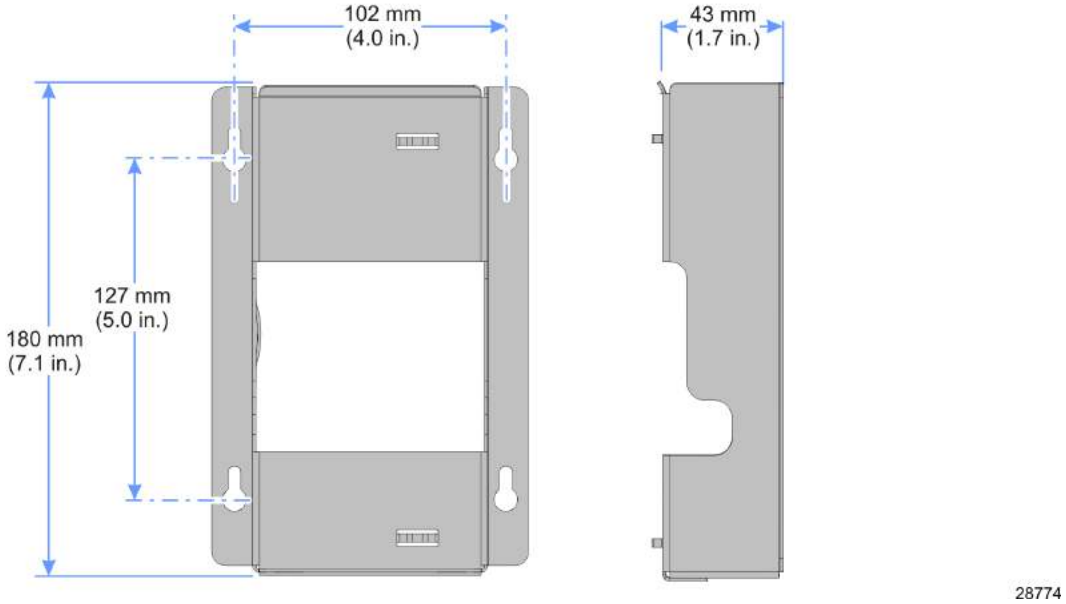


Power Supply Dimensions



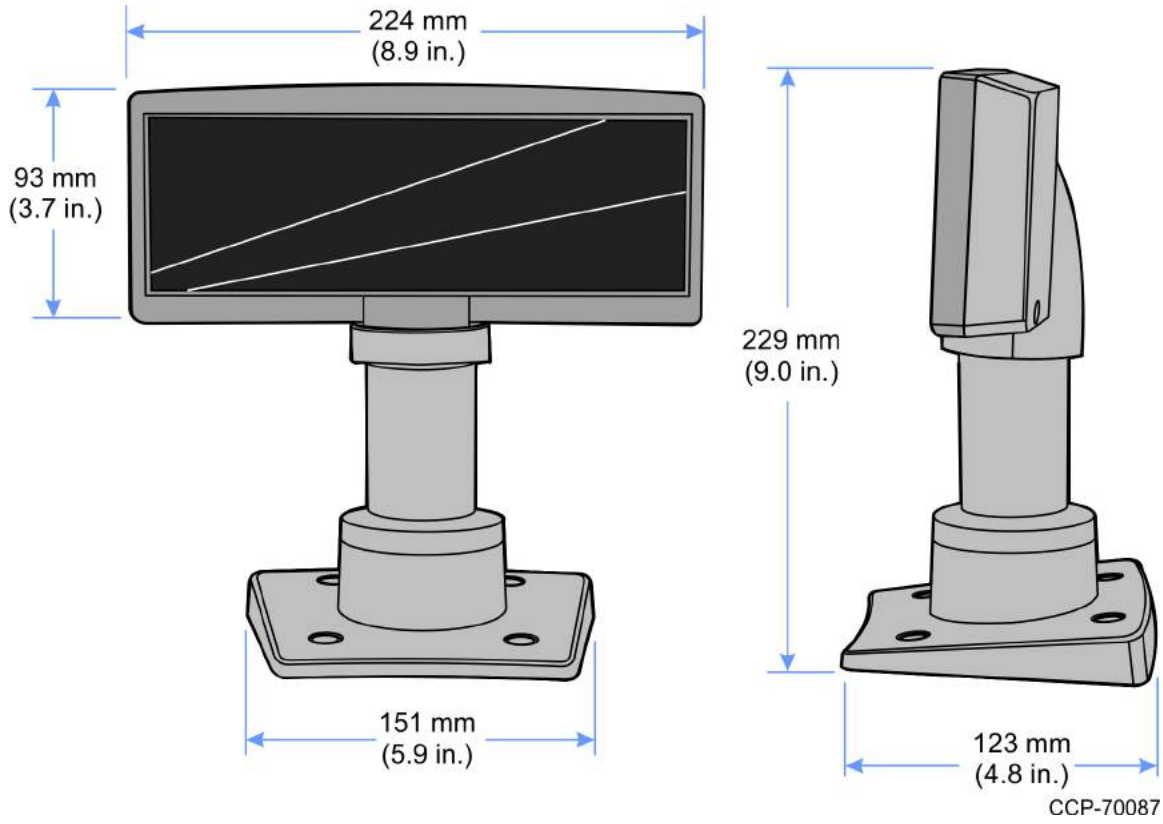
Power Supply Bracket

Note: To ensure the power cables do not become disconnected accidentally, a bracket can be used.



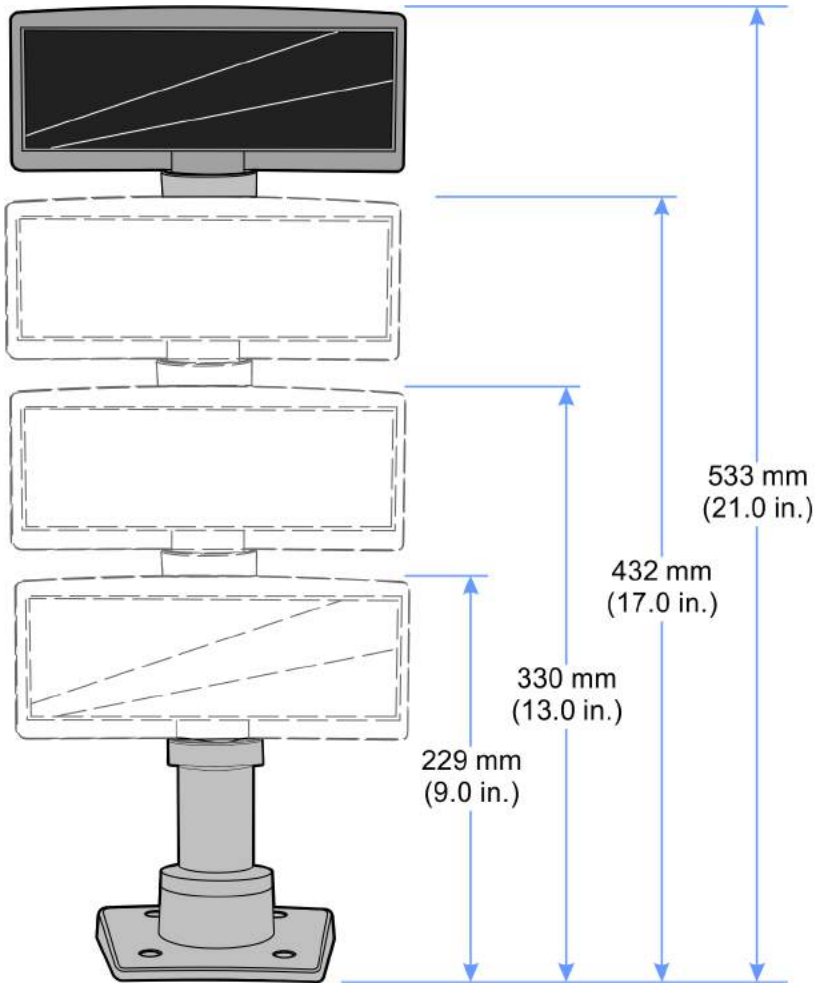
Customer Displays

5975 256x64 Graphical Customer Display



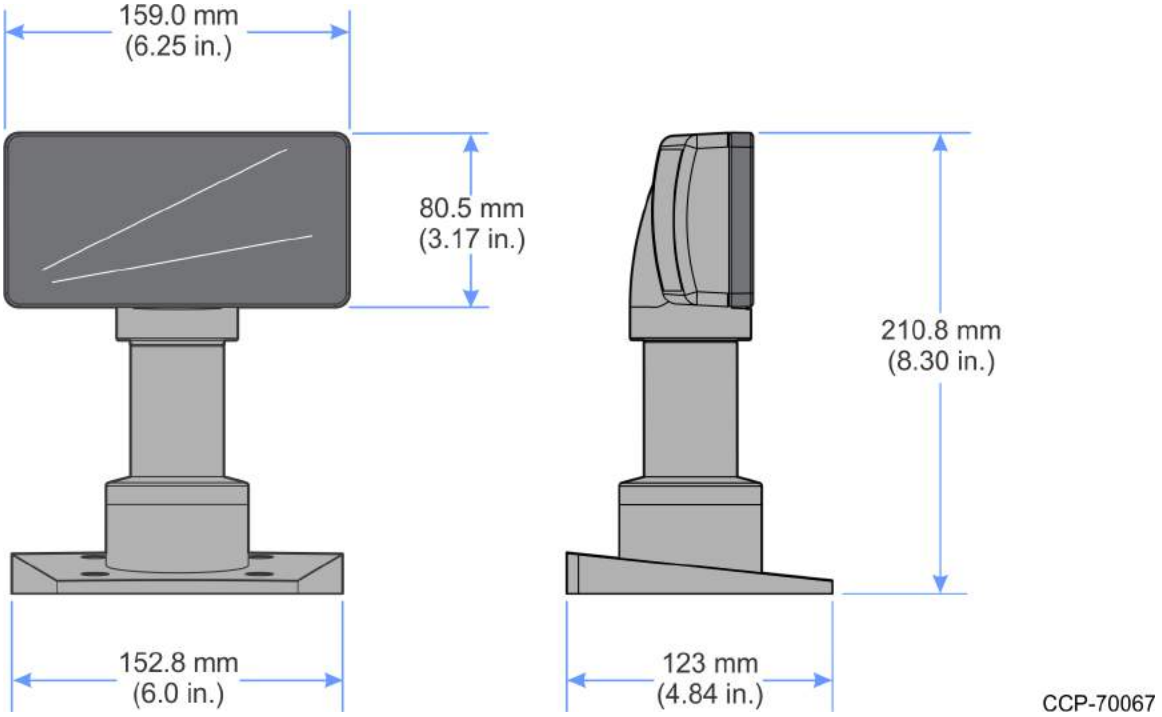
5975 256x64 Graphical Customer Display with Pole Mount

There are four different length posts available, in four inch increments.



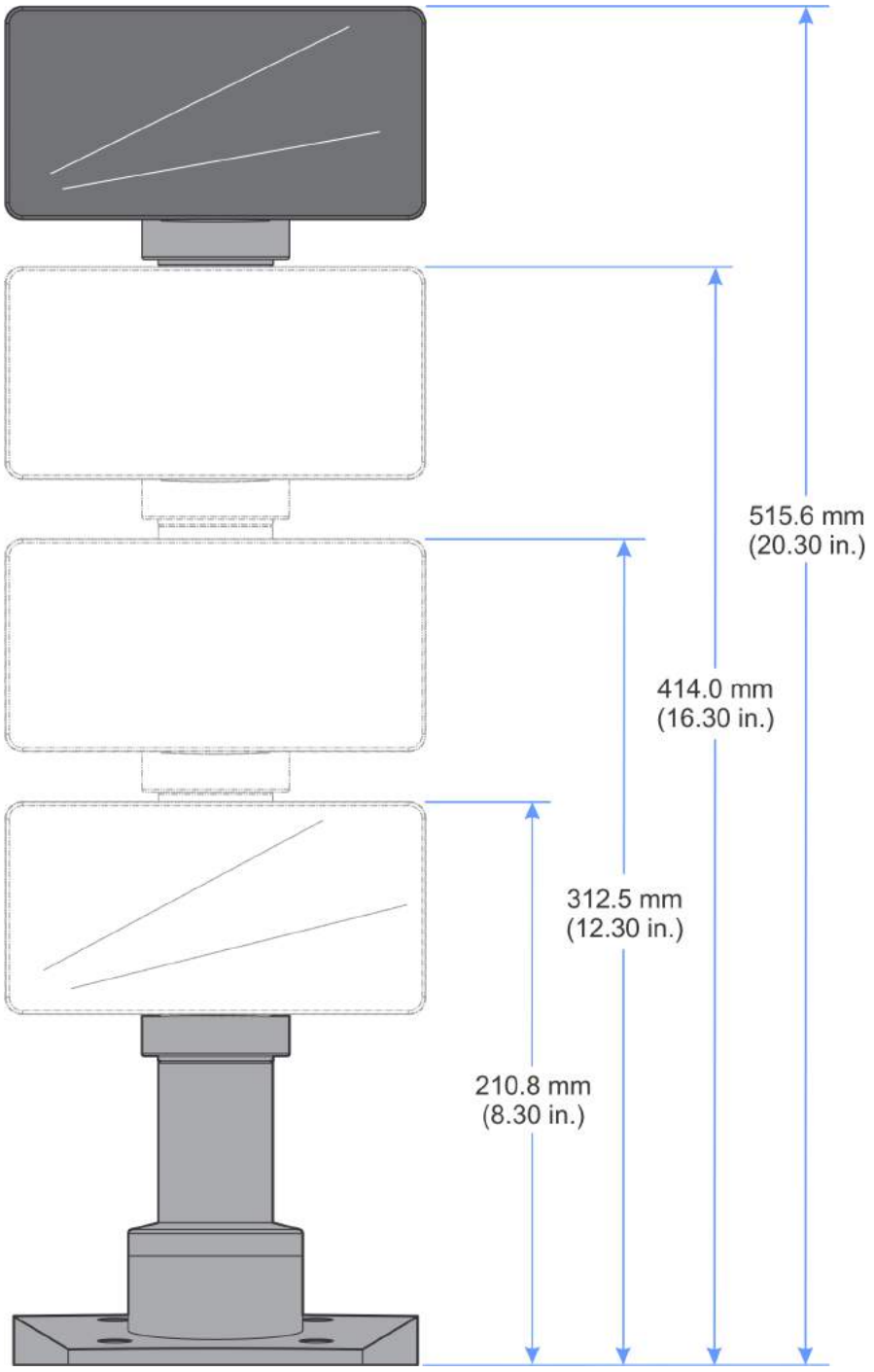
CCP-70088

5976 2x20 Customer Display

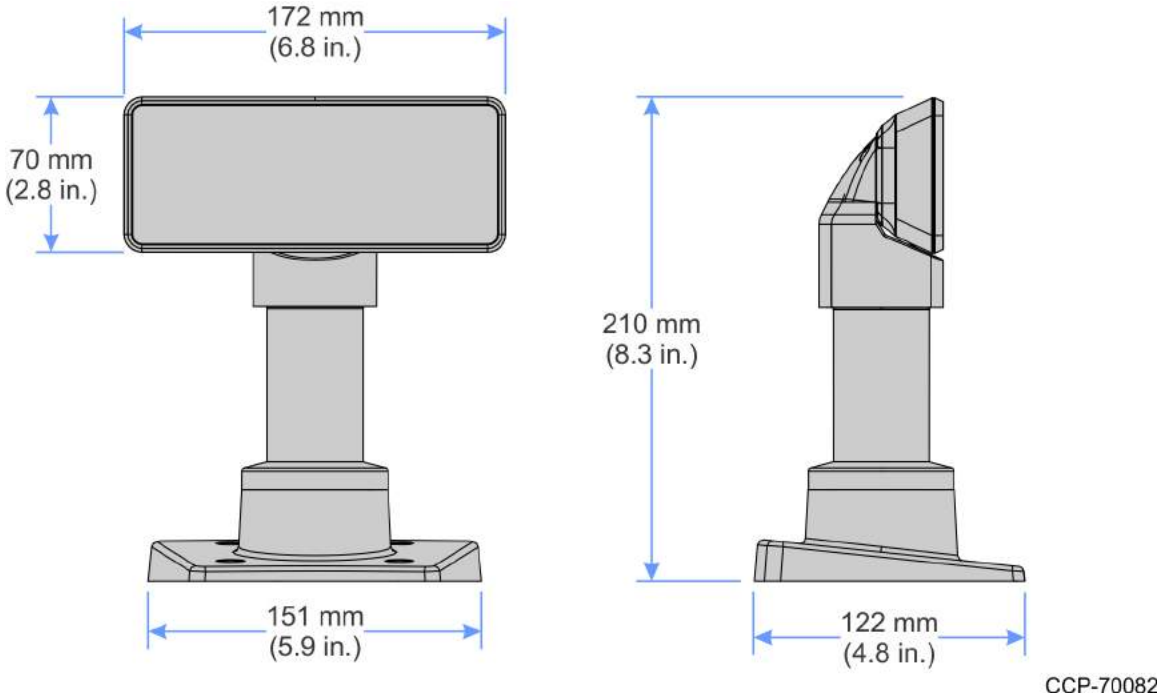


5976 2x20 Customer Display with Pole Mount

There are four different length posts available, in four inch increments.

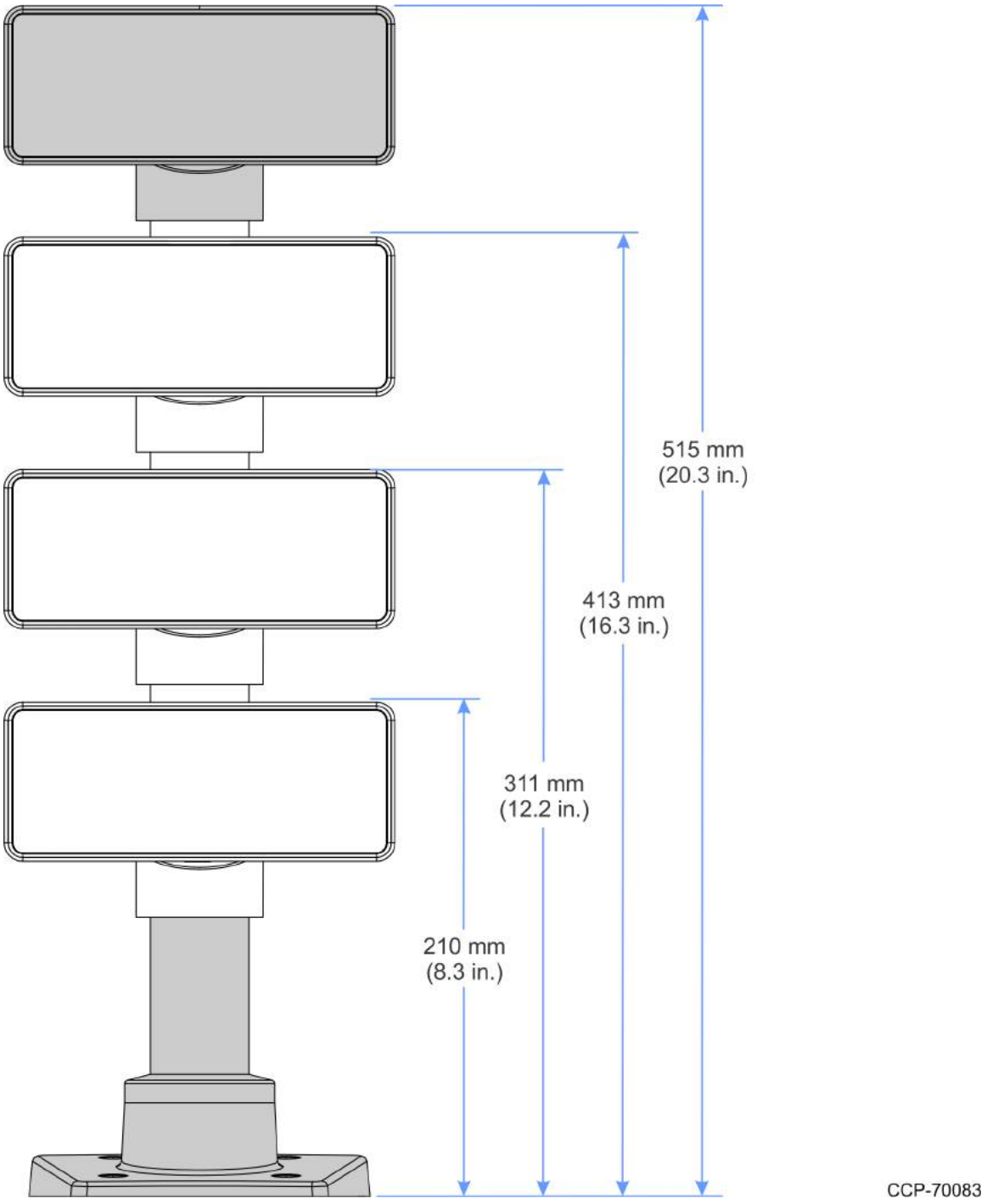


5977 2x20 Customer Display



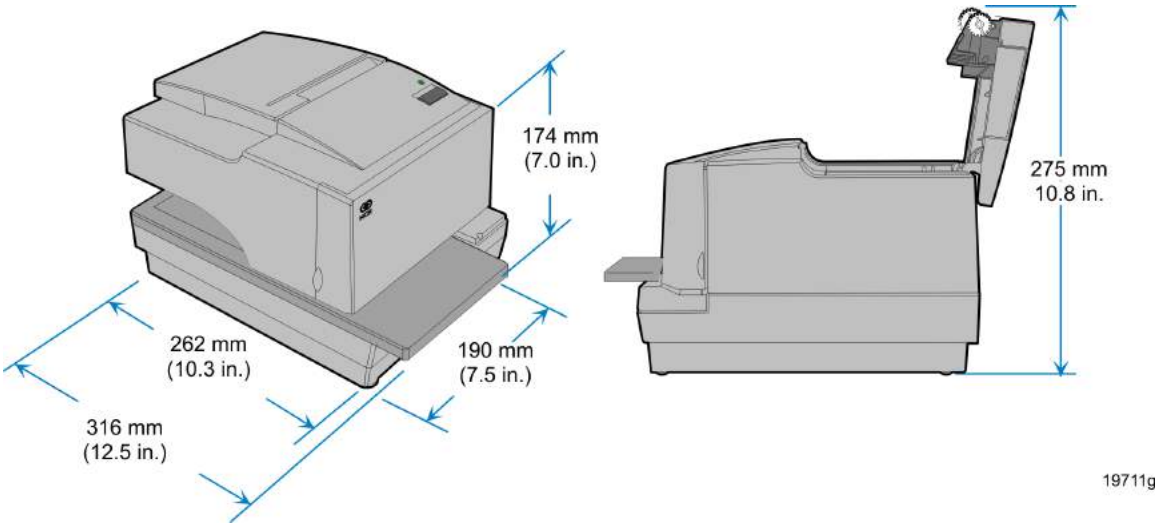
5977 2x20 Customer Display with Pole Mount

There are four different length posts available, in four inch increments.

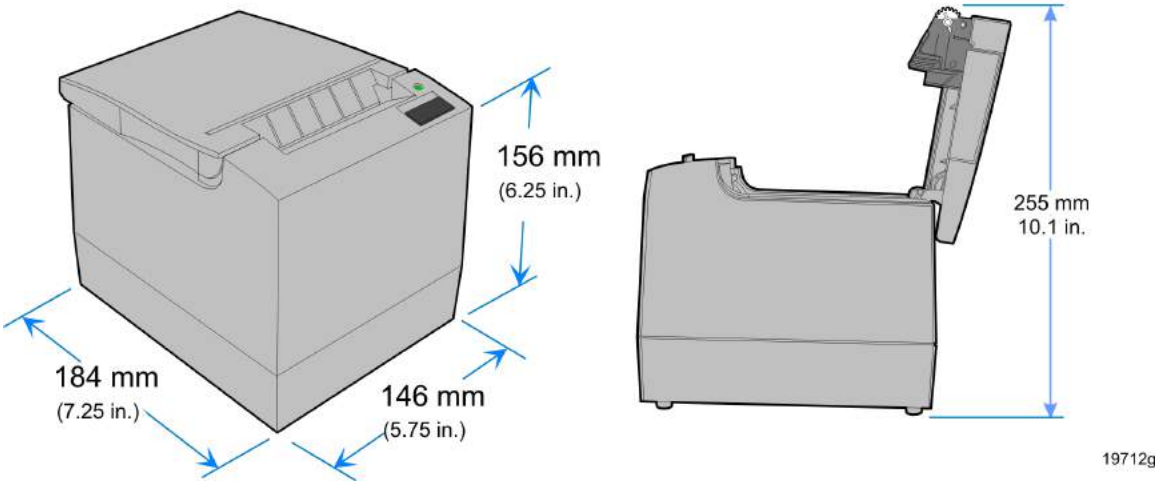


Printers

7167 Thermal Receipt and Impact Slip Printer

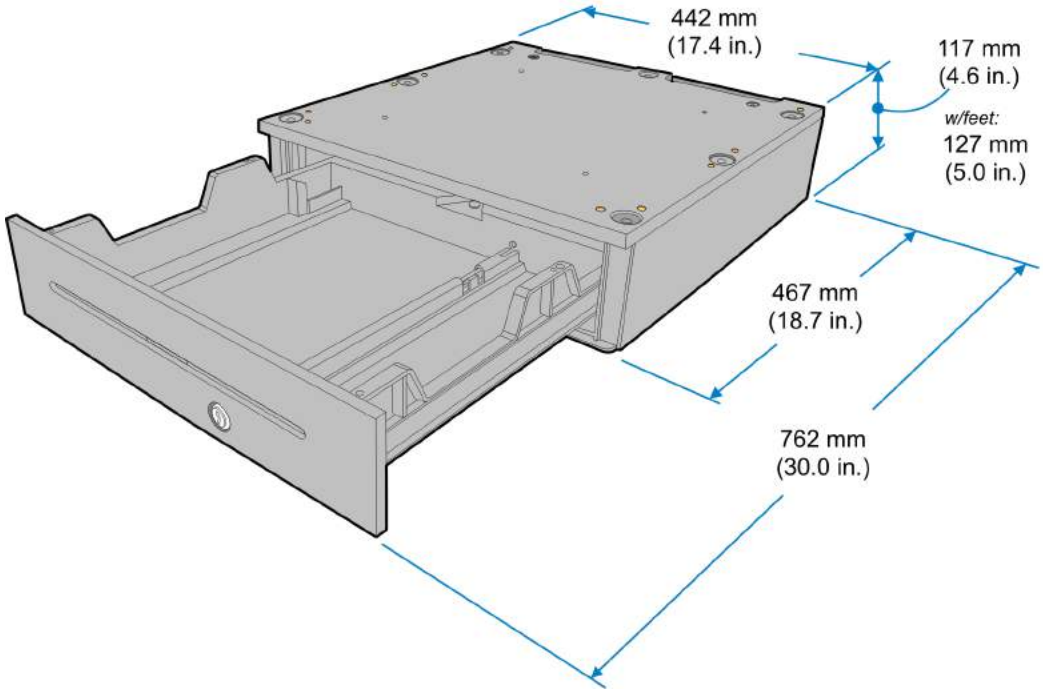


7197 Thermal Receipt Printer



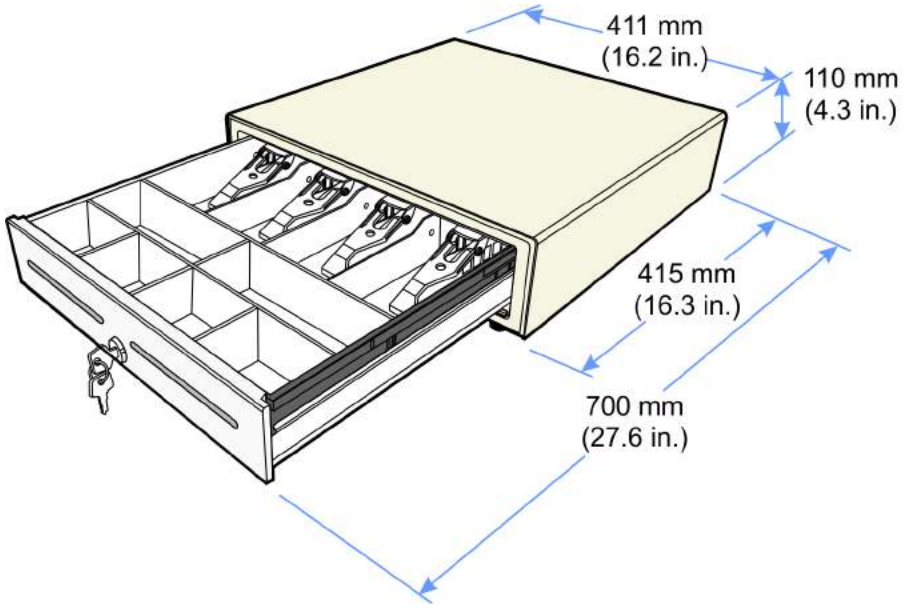
Cash Drawers

2181 Cash Drawer



24799

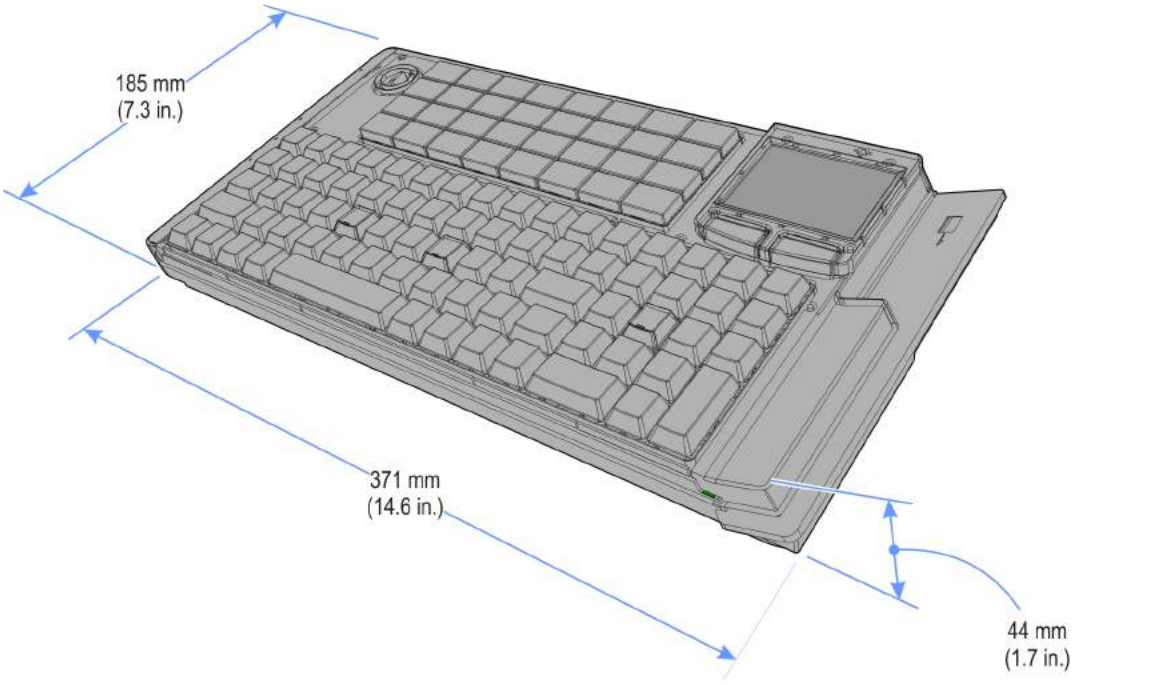
2186 Compact Cash Drawer



23150a

Keyboard

5932-6680 USB 105-Key Compact Alphanumeric Keyboard



Terminal Weight

Component	kg	lbs.
15" 7703 Terminal	4.3	9.5
15" 7703 Terminal w/ Stand	6.3	13.9
18.5" 7703 Terminal	6.4	14.1
18.5" 7703 Terminal w/ Stand	8.8	19.4
21.5" 7703 Terminal	7.5	16.5
21.5" 7703 Terminal w/ Stand	9.9	21.8

Shipping Weight and Dimensions

Component	kg	lbs.	Length x Width x Height
15" 7703 Terminal	5.3	11.7	533 x 533 x 220 mm (21.0 x 21.0 x 8.6 in.)
15" 7703 Terminal w/ Stand	9.0	19.8	394 x 521 x 546 mm (15.5 x 20.5 x 21.5 in.)
18.5" 7703 Terminal	9.5	21.0	673 x 521 x 203 mm (26.5 x 20.5 x 8.0 in.)
18.5" 7703 Terminal w/ Stand	12.4	27.3	508 x 406 x 660 mm (20.0 x 16.0 x 26.0 in.)
21.5" 7703 Terminal	9.9	21.8	730 x 508 x 165 mm (28.75 x 20.0 x 6.5 in.)
21.5" 7703 Terminal w/ Stand	13.6	30.0	730 x 473 x 495 mm (28.75 x 18.625 x 19.5 in.)

Airflow Requirements

Do not block the air vents on the terminal or peripherals. These vents are necessary for cooling.

Do not place the terminal in an enclosed area where sufficient ventilation is not available. Leave at least 100 mm (4 inches) of clearance from air vents.

When the terminal is wall-mounted, the rear cover must have at lease 6 mm (0.25 in.) clearance from the wall. The mounting mechanism must not block the vent holes on the rear cover.

Electrical Requirements

Terminal Power Requirements

The terminal's external power supply has a maximum output of 150 Watts and provides power to the terminal and its powered peripherals.

Range	Nominal Vrms	Minimum Vrms	Maximum Vrms	Input Current Max. Arms
LOW (115)	100-127	90	136	2.2A
HIGH (230)	200-240	180	265	1.2A

Caution: Locate the power supply away from other electrical equipment, away from heat sources, away from possible liquid spills, and where there is adequate clearance for cooling.

Peripheral Power Requirements

The number of peripherals that the terminal can support is dependent upon which peripherals are connected. For planning purposes, use the *RealPOS XR7 Plus (7703) Power Matrix* for details on total power distribution.

Note: This file requires Microsoft Excel to run.

AC Store Wiring Requirements

The customer must provide suitable AC power for the terminals, associated equipment, and devices. We recommend a dedicated unswitched power line dedicated to the NCR equipment installation. Refer to the *NCR Workstation and Peripherals AC Wiring Guide* (BSTO-2115-53) for store AC wiring requirements. The AC outlet must be installed near the terminal and easily accessible to the operator.

Cable Routing

Peripheral cable connectors are located in an opening on the bottom of the terminal. The cables are routed out the opening and down through the Terminal Stand.

For more detail see the *Cable Routing* section in the *Hardware Installation* chapter.

Transient Protection

AC Power Line Transient Protection

In the process of power distribution, transient electrical energy (including, but not limited to, lightning strikes, intermittent short circuits, and switching transients) can be introduced onto power lines. Such transient energy can be very damaging to electronic hardware, and can also cause data corruption. Under these circumstances, NCR recommends the use of AC power transient suppressors. Such protection devices are intended to guard against power line transients that can result in hardware damage and various system or program errors.

Improvement of any deficiencies in power quality is a customer responsibility. Malfunction and/or component failure as a result of power quality problems are/is not covered by the NCR Maintenance Agreement. NCR accepts no liability for any such occurrence nor for its consequences.

When power transient suppression is required, the suppressors used should meet the following minimum requirements:

- Dissipate energy to match the appropriate location categories as defined by IEEE Standard C.62.41.2-2002.
- Be of the voltage limiting (clipping), or tracking filter type. The suppressor must not clamp the voltage to zero, and must self-recover after the passage of the transient. The suppressor may be of the hybrid type construction that makes use of various technologies in order to meet speed and dissipation requirements.
- TranUpon failure, exhibit a positive indication of its failure such as a blown fuse or tripped breaker.
- Be listed by the accepted safety organization for the country involved (UL, CSA, VDE, ETL, and so on) and the installation must conform to local, state, and national electrical

Data Line Transient Protection

The nature of the transient phenomenon may extend to the data communication lines connected to this equipment. It is the responsibility of the customer to install and connect a data line transient suppression system to correct or prevent any deficiencies. Such systems must meet the following minimum requirements:

- Be of the voltage limiting type and must self-recover after passage of the transient.
- Must be designed to avoid signal degradation for the given interface they are attached to.
- Be installed in accordance with all applicable local, state, and national electrical codes and regulation.

Note: NCR provides a full line of both AC power and data line transient surge suppressors to protect your RealPOS system and reduce downtime and extend the life of the RealPOS Retail Solution. For sizing and product information, please call *NCR Site Preparation Services* at 800-257-0458.

The following product offerings are available from NCR Site Preparation Services:

- UPS -Uninterruptible Power Systems
  - Provides battery backup for power outages and brownouts.
  - Includes AC and data line surge protection.
  - If needed, certain models provide basic voltage regulation.
  - Small size provides easy installation.
- Line Conditioners / Filters
  - Incorporates an Isolation transformer or filter that provides 100% isolation from disturbances on the incoming AC power line.
  - Removes EMI/RFI noise that causes equipment lockups.
  - Reduces common mode noise issues and surges/transients.
  - Significantly reduces POS downtime and component failure.
- Transient Voltage Surge Suppressors
  - Provides protection from catastrophic AC surges/transients.
  - Provides data line protection from catastrophic surges that can migrate onto the data line and network.