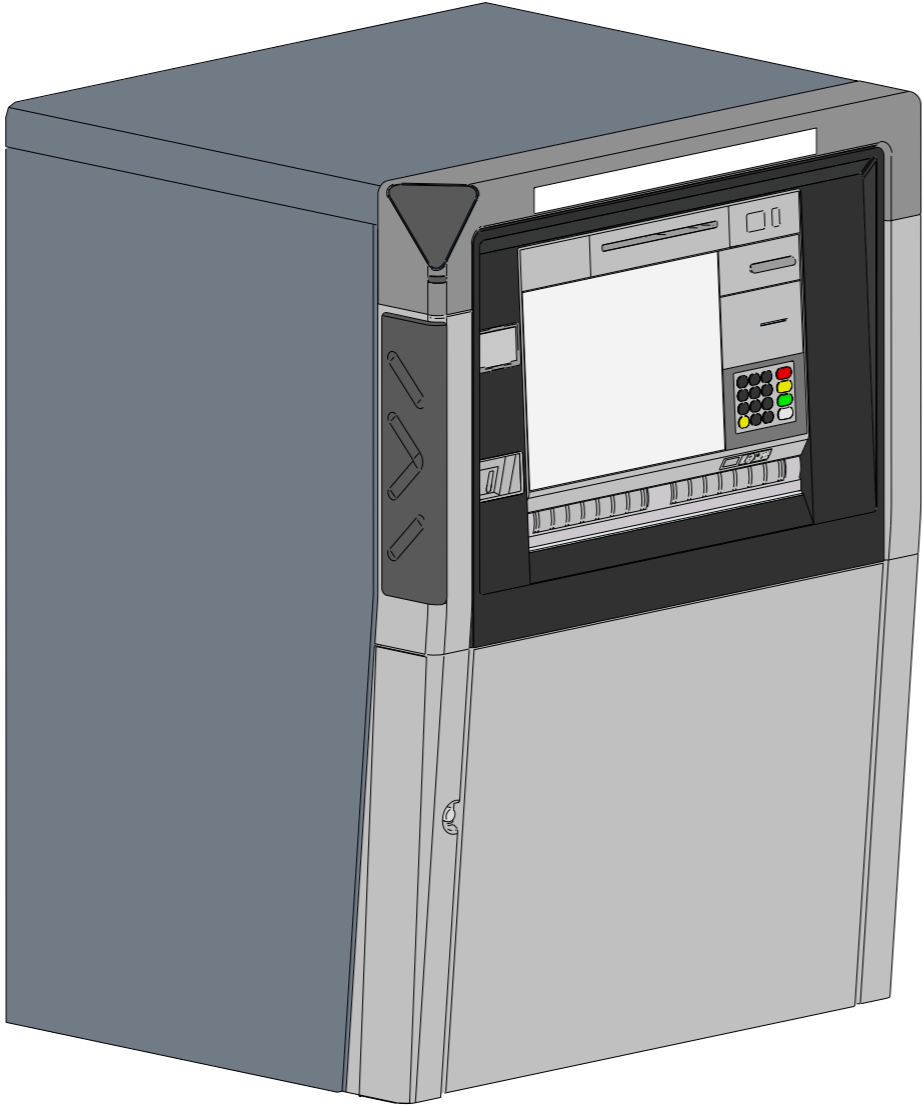




NCR SelfServ™ 88 ATM Site Preparation



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AUDIENCE

This document is intended for architects and those responsible for preparing a site prior to the arrival of the ATM.

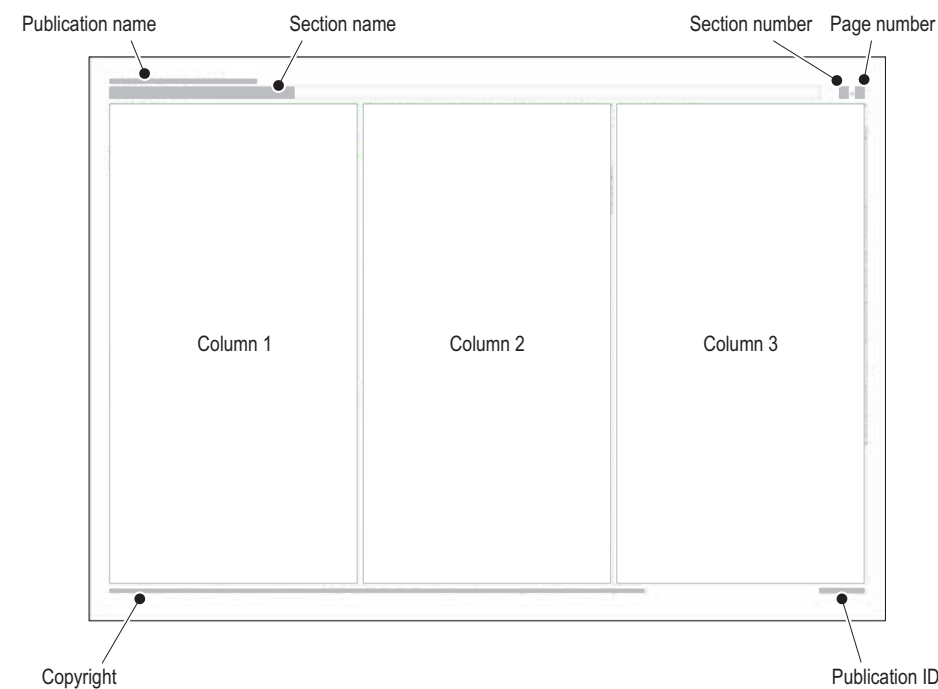
ABOUT THIS DOCUMENT

This site preparation document is designed to be read on wide aspect ratio screens. Each section has been structured to fit the maximum amount of information on the minimum number of pages yet still be readable when printed on A3 size paper. Printing on smaller paper sizes may reduce readability but will make handling easier.

The document is organised into sections covering the following topics:

- Introduction - this section
- Customer Responsibilities
- Standards Compliance
- Product Overview
- Site Requirements
- Power Requirements
- Cable Requirements
- Decals
- Variant Details

Each page has two or three columns laid out as follows:



Where left and right side are stated the ATM is viewed from the front (facia side) of the ATM. All plan views are from the top unless otherwise stated.

Unless otherwise stated all dimensions are rounded to the nearest millimetre and equivalent decimal of an inch.

REVISION RECORD

Date	Revision	Pages	Reason for Change
January 2017	A	All	Initial release

NOTICE

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

This equipment must be installed and used in strict accordance with the manufacturer's instructions. However, there is no guarantee that interference to radio communications will not occur in a particular commercial installation. If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to consult an NCR service representative immediately.



CAUTION NCR Corporation is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by NCR. Such unauthorized modifications, substitutions, or attachments may void the user's authority to operate the equipment. The correction of interference caused by such unauthorized modifications, substitutions, or attachments will be the responsibility of the user.

SITE COMPLIANCE

This document contains the information necessary for the preparation of a site conforming to NCR specifications. It is very important that the site complies with the requirements specified in this 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 customer's 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 the site be prepared by a customer or his agent who is fully conversant with the special requirements of electronic equipment. The responsibility for 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 is not intended 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 will be available to answer questions relating to the contents of this document but, except where:

- a. the customer has been notified that a full or partial consultancy service is available and/or that NCR will be willing to undertake a preliminary or final site survey and
- b. 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 of its preparation and NCR will not be liable in respect of any comment, suggestion or advice given by its staff or in respect of any failure to give advice.

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

CUSTOMER ACTIONS

The customer must do or provide the following:

- When required by NCR, provide the NCR customer service representative with appropriate drawings that indicate:
 - Location of the equipment
 - Site wiring (power and signal, paths and lengths)
- Location of other equipment capable of generating electrical noise, electromagnetic interference, heat, etc.
- 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, and associated hardware.
- Make sure 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.
- Make sure the environmental requirements of the system/unit are met.
- Provide floor coverings and environmental systems that limit or control static electricity build-up and discharge.
- Install the product at a height which meets the accessibility regulations of the relevant country.

RADIO FREQUENCY INTERFERENCE

FCC Radio Frequency Interference 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 Federal Communications Commission (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 you, the customer, will be required to correct the interference at your own expense.

Canadian Class A Device Declaration

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

SAFETY

Safety Directive

- 73/23/EEC, 93/68/ECC 'Low Voltage Directive and Amendment'.

Harmonised Safety Standard

- EN 60950-1: 2006 'Information Technology Equipment - Safety'
- EN 60950-22: 2006 'Information Technology Equipment - Safety' Equipment installed Outdoors

ELECTROMAGNETIC COMPATIBILITY (EMC)

Immunity Standards

The ATM complies with the following requirements for radiated and conducted immunity:

- EN 55024 (1998)/+A1: 2001, A2: 2003

As per the requirements of EN55024, the ATM complies with the requirements of the following normative Immunity Standard:

- EN 61000-4-2 Electrostatic Discharge
- EN 61000-4-3 Radiated RF
- EN 61000-4-4 Electrical Fast Transient/Burst
- EN 61000-4-5 Surge
- EN 61000-4-6 Conducted RF
- EN 61000-4-8 Power Frequency Magnetic Field
- EN 61000-4-11 Voltage Dips/Short Interruption.

EMC Directives

This equipment has been found to comply with the essential requirements of EMC Directive 2014/30/EU, by testing to harmonized standards EN55032, EN55024, EN61000-3-2 and EN61000-3. The equipment complies with the limits for a Class A digital device, pursuant to EN55032.

The ATM complies with the following Electromagnetic Compatibility (EMC) directives and standards for IT equipment:

- 2014/30/EU 'EMC Directive'
- 93/68/EEC 'CE Marking Directive'

Emission Standards

The ATM complies with the following requirements for radiated and conducted emissions:

- EN55032 Class A
- FCC 47CFR Part 15. Class A
- CISPR 32 Class A
- AS/NZS 3548 Class A
- GB 9254 Class A
- CNS 13438 Class A.



WARNING This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Additional Requirements for 220V - 240V Units

The ATM complies with the following requirements for conducted emissions:

- EN 61000-3-2: 2000, Mains harmonics, Class A
- EN 61000-3-3: 1995/+A1: 2001, Mains flicker.

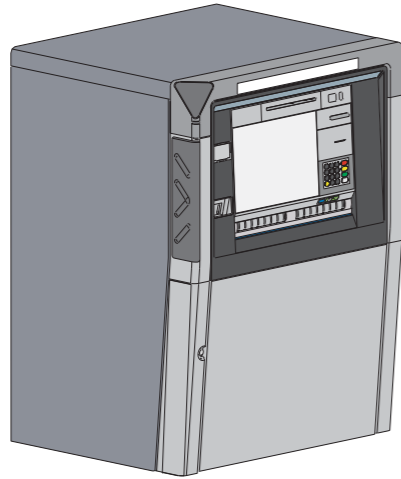
ACCESSIBILITY

It is the responsibility of the owning institution to ensure that the heights from the sidewalk level to the fascia items comply with any local regulations.

Note: The heights listed in this document assume that the installation does not add depth in front of the ATM. Increased depth may change the height requirements due to increasing the user's reach, therefore please refer to the relevant accessibility regulation if additional depth has been added.

GENERAL DESCRIPTION

The NCR SelfServ 88 is a drive-up (Automated Teller Machine (ATM) which can also be deployed as a walk-up ATM.



Options

Security Enclosure

- CEN 1

ACOUSTICS

For most variants the acoustics sound power does not exceed:

- 65 dB(A) when idle
- 68 dB(A) when operating (see note).

However, the following configurations will affect the sound levels as shown in the table below:

Configuration	Acoustic sound power when operating
Coin	does not exceed 72 dB(A)
Cooling fans	does not exceed 75 dB(A)
Air conditioner	does not exceed 78 dB(A)

HEAT DISSIPATION

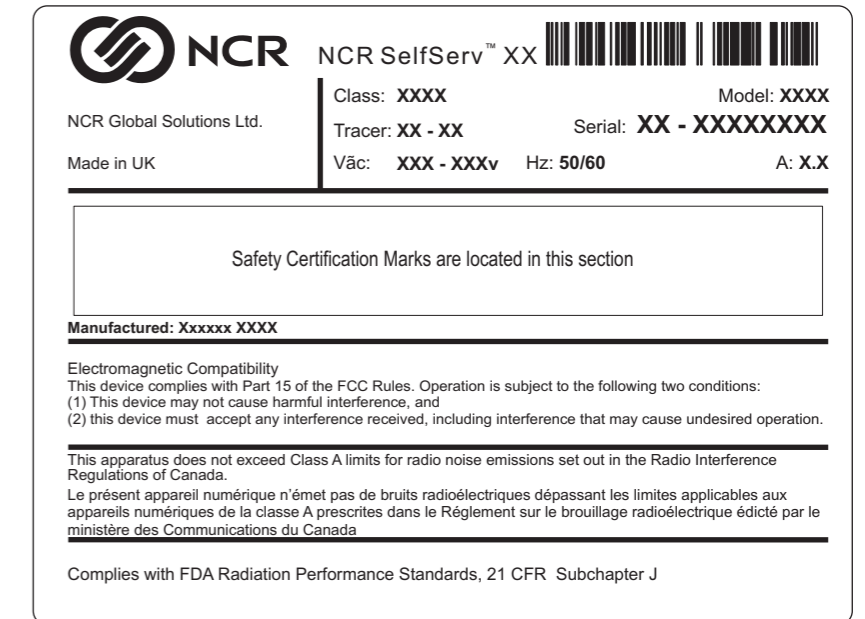
The NCR SelfServ product range is a flexible hardware platform. NCR recommends that actual power measurements are taken and used to establish the heat dissipation for specific hardware configurations. These measurements should include any custom or third party features.

Where specific measurements are not available then, as a guide, **760 KJ/hour** can be used as an indicative heating load. This figure is based on an ATM in idle mode, with a medium to high feature functionality configuration.

Heat dissipation figures are largely unaffected by transactional rates.

PRODUCT IDENTIFICATION

The illustration below is typical of the layout of the product identification label which is fixed inside the ATM.



The product is identified by a class and a 4 digit model number. The serial number is unique to each ATM. The tracer number is used to identify where the ATM was built.

Please quote all of the serial and tracer numbers, including the prefix, when making reference to the ATM.


Electrical rating information is also shown on the product label.

POSITIONING THE ATM

Position the ATM where bright sunlight will not fall directly on the display.

Allow sufficient room for installation and servicing requirements.

Do not obstruct access to the air conditioning unit, if fitted.

CAUTION  The ATM is designed to withstand exposure to rainfall. However do not locate it where it may be exposed to water spray, for example, from vehicles driving through puddles.

ISLAND

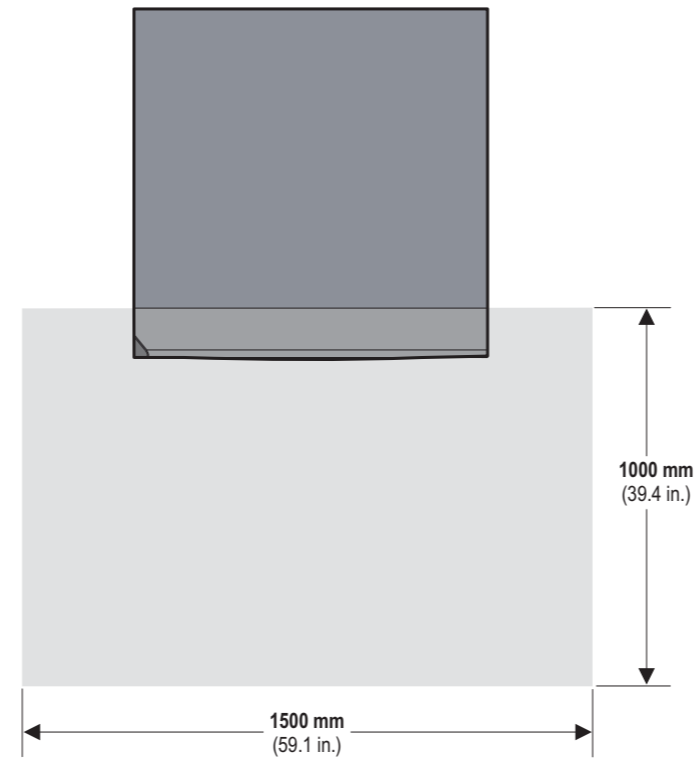
The ATM is designed for installation on a concrete island. The island must be level and even.

The ATM must be installed on an island, or base, capable of supporting the maximum weight including media. Only the maximum weight should be considered as additional options may be added after installation. Floor loading is calculated by dividing the maximum weight of the ATM by the surface area of the ATM base in contact with the floor.

Service areas, ATM weights and floor loading for your ATM can be found in the Variant Details section.

AMBIENT LIGHTING

If the ATM is fitted with a camera, it is strongly recommended that there is a minimum of **50 LUX** lighting at floor level within the area illustrated below.

**TASK LIGHTING**

A minimum of **200 LUX** is required for task lighting.

BAROMETRIC PRESSURE

- Operating/Transit Limits: **105 kPa** (15.2 lb.F/in.) to **70 kPa** (10.2 lb.F/in.)
- Equivalent Altitude: Up to a maximum of **3000 m** (9842.52 ft)

TEMPERATURE AND HUMIDITY

Continuous operating at or near the range limits, or in a location where the temperature and humidity change beyond the specification, should be avoided.

Normal Operating Range

- Temperature: **-35°C to 50°C** (-31°F to 122°F)
- Relative Humidity: **10% to 100%**
- Dew Point Temperature Restriction: **26°C** (79°F) maximum

Storage Range (Up To Three Months)

- Temperature: **-10°C to 50°C** (14°F to 122°F)
- Relative Humidity: **10% to 90%**

Transit Range (Up To One Week)

- Temperature: **-40°C to 60°C** (-40°F to 140°F)
- Relative Humidity: **5% to 95%**

Extreme Power On Range (Up To One Hour)

- Temperature: **0°C to 45°C** (32°F to 113°F)
- Relative Humidity: **10% to 95%**

AC POWER REQUIREMENTS

The maximum current requirements are:

- 30A at 120V
- 15A at 230V.

The maximum inrush current is:

- 50A peak at 136V
- 80A peak at 257V.



CAUTION Power to the ATM is to be a dedicated 30A service. The ATM must comply with local code requirements and be protected with a 30A circuit breaker.

NCR does not recommend running an ATM with deposit devices without an Uninterruptible Power Supply (UPS). Without a UPS, there is the potential for customer's cash to be retained in the device if there is a power failure.

INPUT VOLTAGE

The ATM can operate from the following input mains voltages:

- 90V to 136V at 50/60Hz
- 198V to 257V at 50/60Hz.

GROUNDING

The ATM operates from a single phase, 3 wire supply; live, neutral and ground. The power requirements of this unit require a dedicated hard wired connection.

Where the supply is provided from a general purpose distribution panel, then the other branch circuits from this panel must not be used to supply heavy inductive loads such as air conditioners, AC motors.

Consideration should be given to the following;

- the installation meets or exceeds the regulatory and local guidelines with regard to electrical safety and all conductor sizing
- the location of the ATM with regard to cable runs and also nature of neighbouring electrical equipment.

The normal and safe operation of this ATM is dependant on the above. Only qualified personnel that meet local certification standards should be permitted to ensure compliance.

Note that the building ground point can also affect data integrity. For additional information refer to [Data Line Transient Protection](#) in the [Cable Requirements](#) section.

TRANSIENT POWER LOSS

The voltage loss due to power interruptions must not be more than 50% of the nominal value for a maximum of one half cycle at a maximum rate of 1 every 10 seconds.

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 on to 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 and data (communication) line transient suppressors. Such protective devices are intended to guard against power and data 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 NCR Corporation 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:

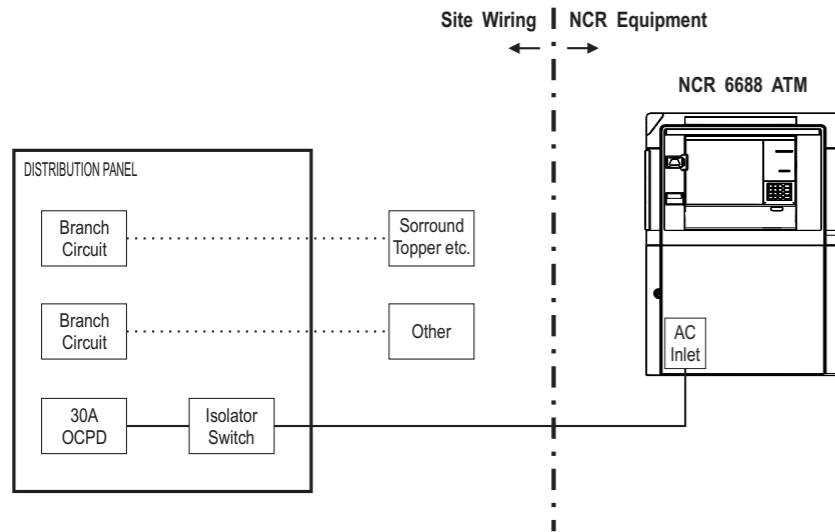
- Dissipate energy to match the appropriate application categories as defined by ANSI/IEEE Standard C62.41, Guide on Surge Voltages in Low-Voltage AC Power Circuits.
- Be of the voltage limiting (clipping), or tracking filter type. The suppressor must not 'clamp' the voltage to zero, and must self-recover 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.
- Exhibit a 'short circuit' mode upon its failure, thus providing 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 (e.g. UL, CSA, VDE, ETL, etc.) and the installation must conform to local, state, and national electrical codes and regulations.

Location Category	Comparable to IEC No 664 Category	Transient	
		Waveform	Amplitudes
B = Major feeders, short branch circuits, and load centres	III	Volts = 1.2 x 50 μs Current = 8 x 20 μs and 0.5 μ Rise - 100 kHz Ringwave	6kV 3kA 6kV 500A
C = Service Entrance and run to load centre	IV	Volts = 1.2 x 50 μs Current = 8 x 20 μs	10kV or more 10kA or more

Transient Protection Products

NCR provides a full range of both AC power and data line transient surge suppressors to protect your ATM. For more information, please call NCR Site Preparation Services for more information.

AC WIRING DETAILS

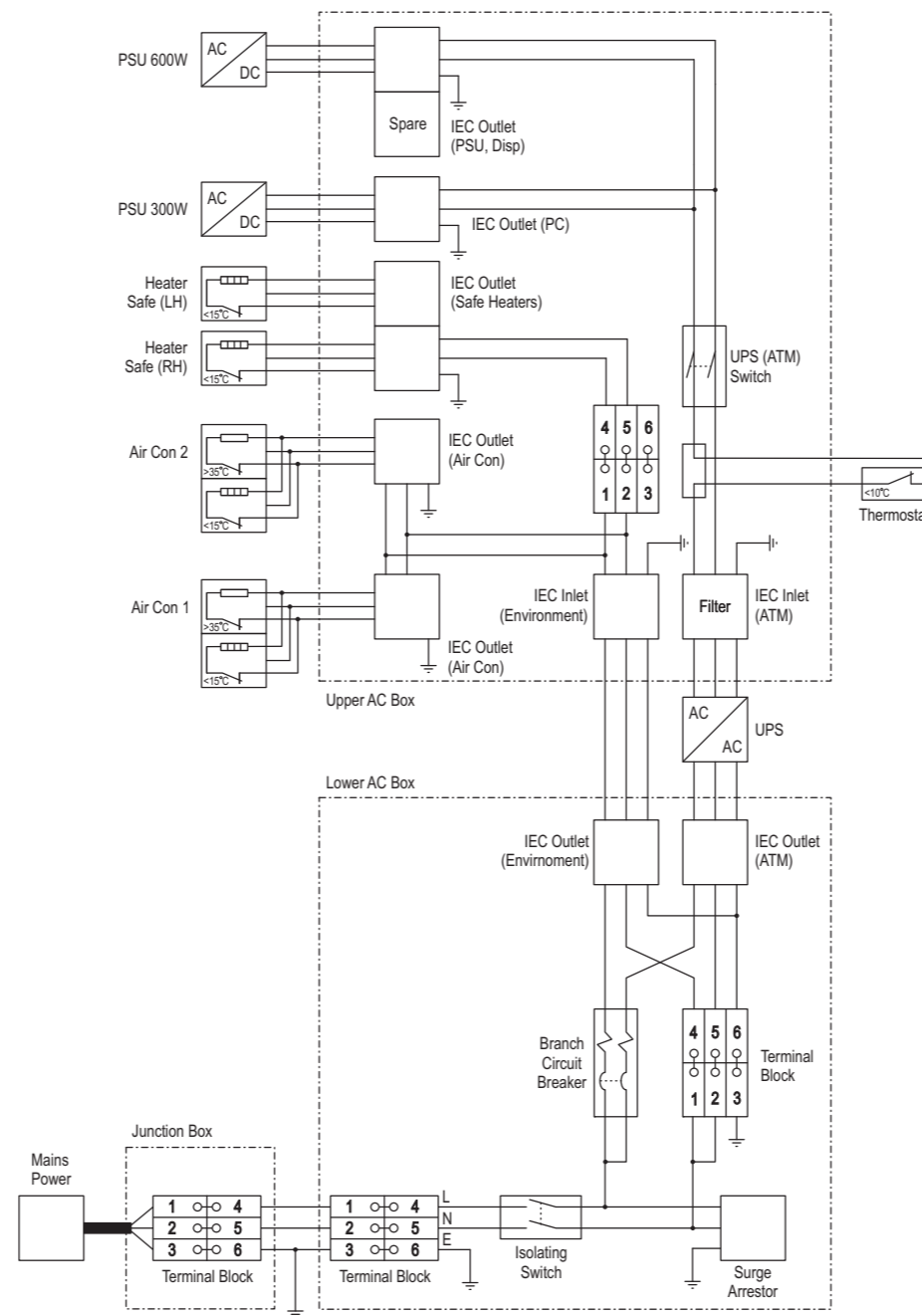


Note 1: Dedicated 30A Service - The NCR SelfServ 88 ATM must have a dedicated 30A service.

Note 2: Branch Circuits - The conductors (L, N, E) must comply with all national and local regulations.

Note 3: Distribution Panel - The distribution panel must be free of heavy start loads and other electrically noisy equipment.

AC Distribution Wiring Diagram



THIRD PARTY SURROUND/TOPPER WIRING

The following information is for guidance only, when providing power to a third party surround/topper outside of the ATM.

It is the responsibility of the customer to make sure that all site preparations are complete and in compliance with NCR specifications and requirements and with all national, state or local electrical codes, telephone and telegraph regulations and laws.

Customer Responsibilities

The customer **must** make sure of the following:

- Power is from a separate dedicated source and is not tapped into the ATM's dedicated 30A circuit (which is required to provide power to the ATM only)
- Surround/topper, or other equipment, is not plugged onto the internal AC outlet or power bar (if fitted)
- NCR recommends external routing, however, if power is routed internally through the ATM, it is routed safely and securely and does not interfere with any internal module functions
- All applicable codes, regulations and laws (including but not limited to electrical, building, safety and health, disabilities) are met
- The environmental requirements of the system/unit are met.



CAUTION The power cable must be connected by a certified electrician.

NCR Responsibilities

NCR Corporation is not responsible for any modifications or wiring of this equipment. Such modifications may void the customer's authority to operate the equipment. The correction of interference caused by such modifications will be the responsibility of the customer.

Recommended Wiring

It is recommended that power to the surround/topper be routed externally, outside of the ATM, ensuring all codes, regulations and laws are met. Electrical conduit may be attached to the outside of the ATM.

The power must be from a dedicated source separate from the ATM.

The illustration below shows two examples of correct external wiring methods.

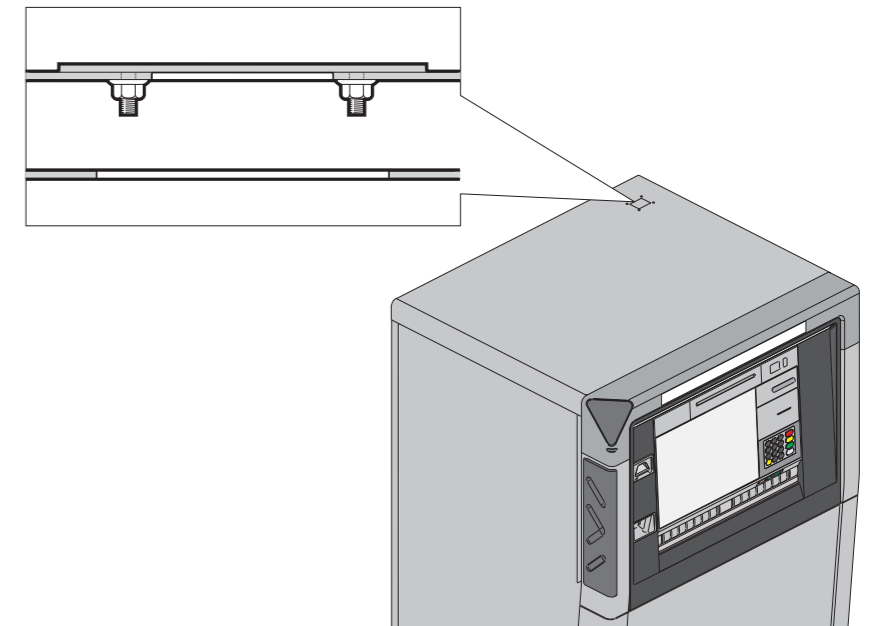


Power is routed externally from a dedicated source separate from the ATM

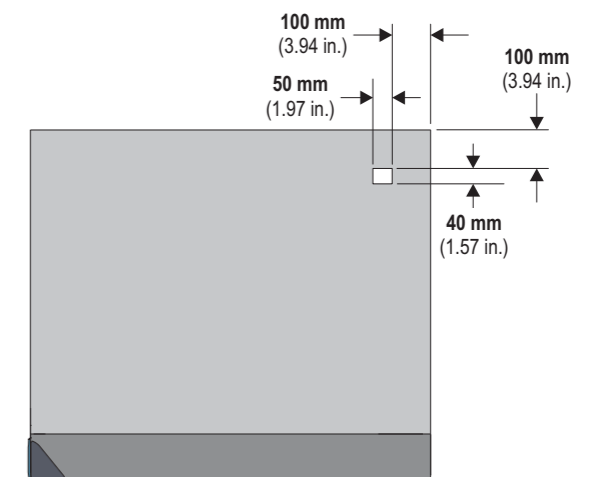
When Wiring Cannot be Routed Externally

Disclaimer: NCR is not liable for any additional third party wiring. It is important that the site be prepared by a customer who is fully conversant with the special requirements of the electronic and electrical equipment. The responsibility remains with the customer.

There is a topper blank plate fitted to the top of the ATM. This access point can be used for topper wiring **subject to the disclaimer above.**



Topper Hole Location



See the NCR SelfServ 88 ATM Installation Guide (B006-7480) for details.

CABLE PREPARATION

External cables are not supplied. Specifications for these cables are given in this section.

It is the customer's responsibility to have any required external cables installed and to make sure that all cable preparations comply with NCR specifications as well as with all national, state or local telephone and telegraph regulations and laws.

When producing cables allow for **2.2 m (7.22 ft)** of cable within the ATM.

DATA LINE TRANSIENT PROTECTION

Voltage transients, line noise, surges, sags, impulses, and spikes may be experienced routinely or sporadically. When such phenomena occur the use of protective devices may be required to ensure proper operation of the 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 self-recovering voltage limiting type. Exhibit a 'short circuit' mode upon its failure to ensure a positive indication of its failure. Insert minimum inductive and capacity loading at the operating frequency. Be installed in accordance with all applicable local, state, and national electrical codes and regulations.

Protect the data port from damage in the presence of a data line transient event as defined in IEC Standard 1000-4-5 (formerly IEC 801-5).

Transient Protection Products

NCR provides a full range of both AC power and data line transient surge suppressors to protect your ATM. For more information, please call NCR Site Preparation Services for more information.

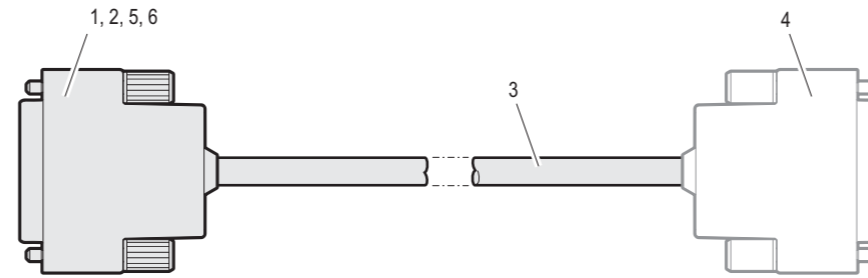
ALARM INTERFACE CABLES

The ATM may optionally be configured to provide an alarm interface which enables the ATM to be connected to an external local alarm system. The interface may take the form of one of two options; a basic alarm system or an enhanced alarm system.

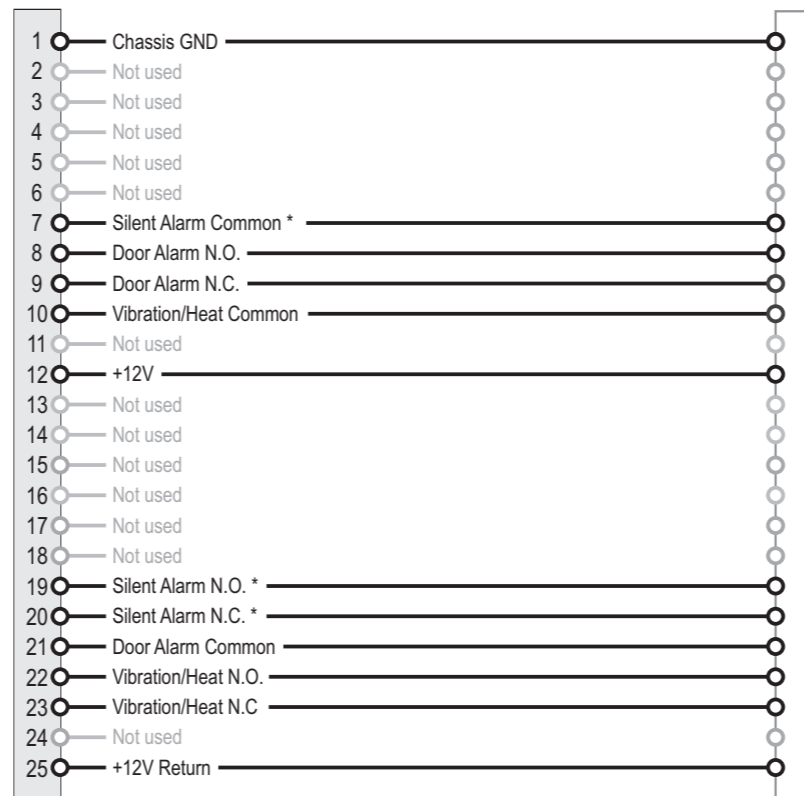
A stabilised, non-interruptible power supply must be provided through the external alarm system. The alarm interface cable wiring must conform to the following specification:

- 12V +/- 2V dc
- 200mA maximum
- Ripple, 5% maximum.

Basic Alarm Cable



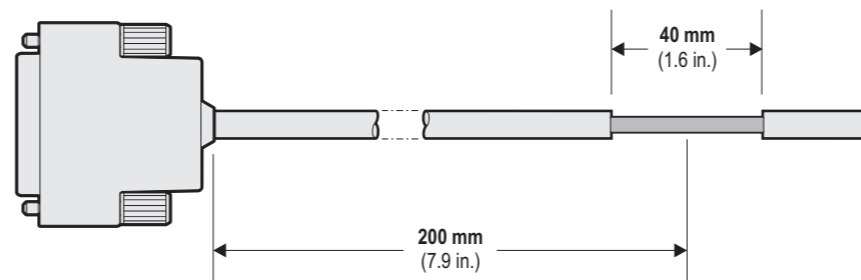
1. Connector, 25 Way (NCR part no. 006-0005896)
2. Terminal, wire, female (NCR part no. 009-0002640)
3. Cable, multiconductor (determined by the alarm installed).
4. Connector (determined by remote device).
5. Shell Hood (NCR part no. 006-1500038).
6. Screw retainer (NCR part no. 601-0101584).



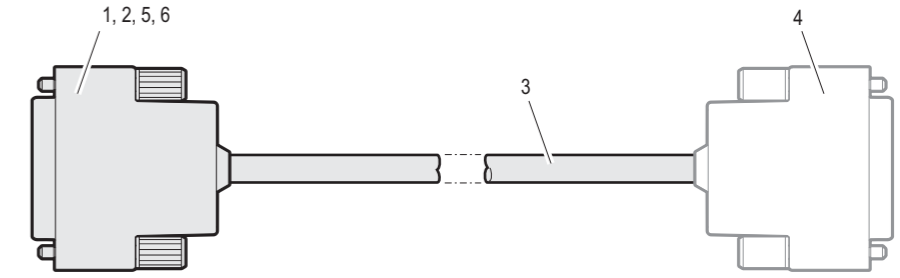
* Optional

Remove a **40 mm (1.6 in.)** section of the outer sleeve, **200 mm (7.9 in.)** from the ATM end of the cable.

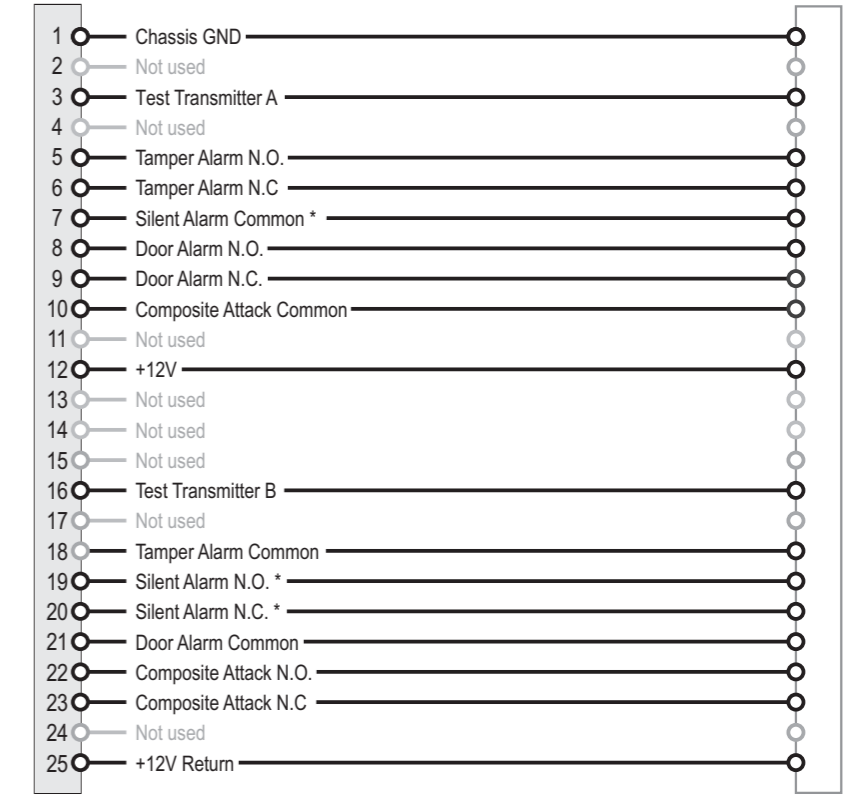
Take care not to cut through the cable shielding.



Enhanced Alarm Cable



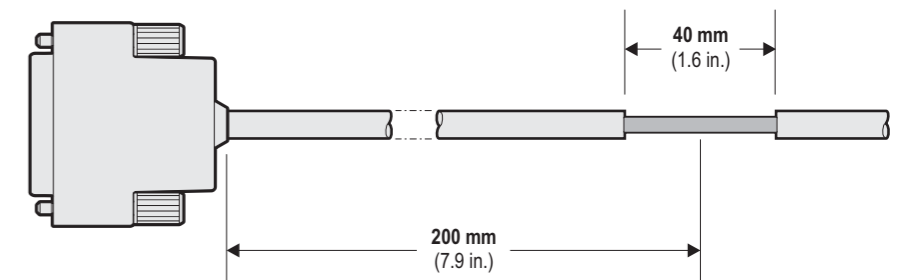
1. Connector, 25 Way (NCR part no. 006-0005896)
2. Terminal, wire, female (NCR part no. 009-0002640)
3. Cable, multiconductor (determined by the alarm installed).
4. Connector (determined by remote device).
5. Shell Hood (NCR part no. 006-1500038).
6. Screw retainer (NCR part no. 601-0101584).



* Optional

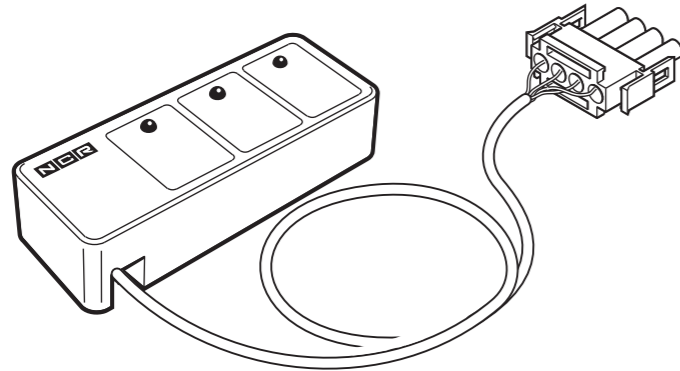
Remove a **40 mm (1.6 in.)** section of the outer sleeve, **200 mm (7.9 in.)** from the ATM end of the cable.

Take care not to cut through the cable shielding.



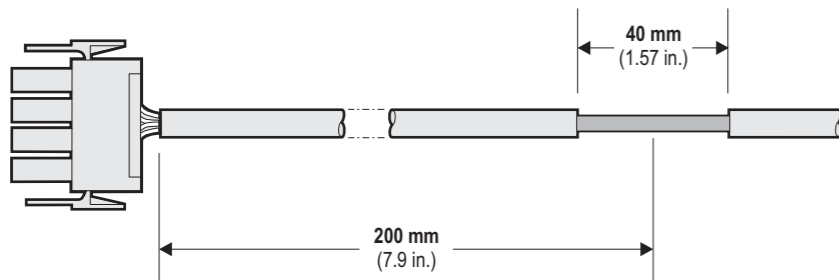
REMOTE STATUS MONITOR

The remote status monitor feature is supplied as a complete assembly consisting of a status indicator unit, **76.2 m** (250 ft) of cable and a connector.



Remove a **40 mm** (1.6 in.) section of the outer sleeve, **200 mm** (7.9 in.) from the ATM end of the cable.

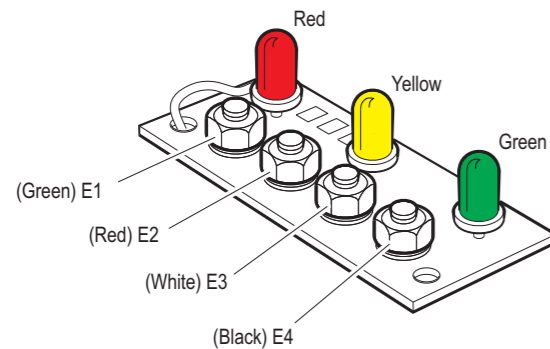
Take care not to cut through the cable shielding.



Shortening the Cable

If you need to shorten the cable, proceed as follows:

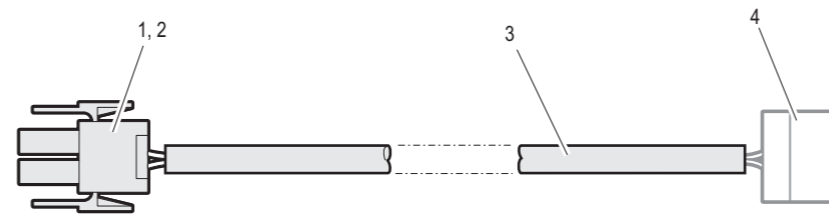
1. Remove the cover from the remote status indicator unit
2. Disconnect the four leads (E1, E2, E3 and E4) from the indicator



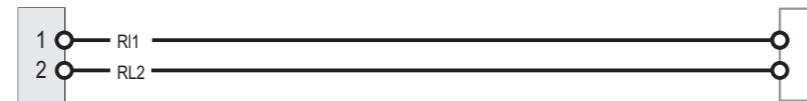
3. Cut the cable to the required length and strip the four wire ends
4. Connect the wires to the correct terminals
5. Replace the status indicator cover.

REMOTE RELAY CABLE

The remote relay provides a pair of open contacts, rated at 28 volts per ampere for both ac and dc supplies, which can be closed to activate a remote device. The interconnecting cable to a remote device must conform to the following specification and wiring:

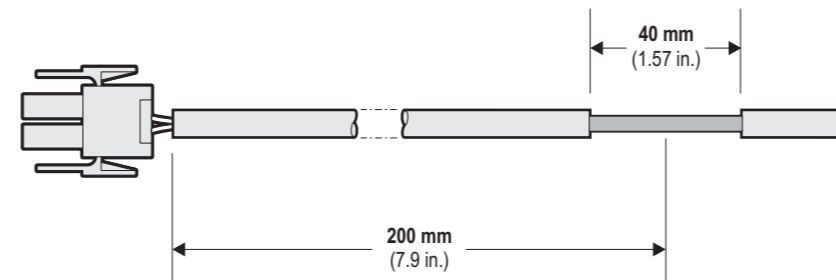


1. Connector, 2 way Mate-N-Lock (NCR part no. 007-9814285).
2. Terminal wire, male (NCR part no. 007-2009663).
3. Cable, multiconductor (NCR part no. 006-5800006).
4. Connector (determined by remote device).



Remove a **40 mm** (1.6 in.) section of the outer sleeve, **200 mm** (7.9 in.) from the ATM end of the cable.

Take care not to cut through the cable shielding.



ETHERNET STANDARD CABLE

The ethernet standard cable must be fully shielded, 8 pin, category 6 compliant and must not exceed **97 m** (318.20 ft) in length.

Removing a section of the outer sleeve is not required for the NCR SelfServ 88 ATM.



POWER CABLE

The ATM is a fixed wire product and is not supplied with a power cable. See the Power Requirements section for information about how the internal wiring of the ATM is connected to a dedicated 30A circuit via a terminal block connector.

WARNING The cable used to connect to the ATM must have copper conductors and must comply with local code requirements.

WARNING This equipment must be earthed.

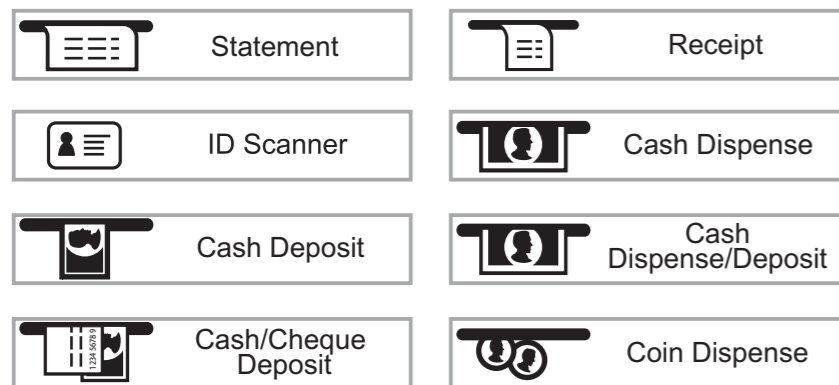
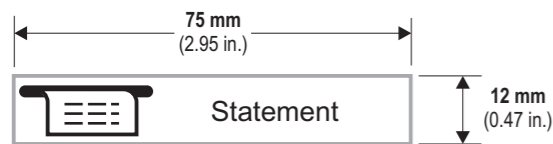
ENTRY/EXIT DECALS

Entry/Exit decals should be a maximum of **0.5 mm** (0.02 in.) thick. NCR recommends they be made from textured polycarbonate with 3M 467 High Performance MP adhesive.

Decals should provide good contrast, at least 70%, between foreground (text/icon) and background.

A sans serif typeface should be used (Tiresias is recommended). The text size should be at least 14 point, and larger where possible. Where tactile decals are required they should be designed in line with specific country requirements.

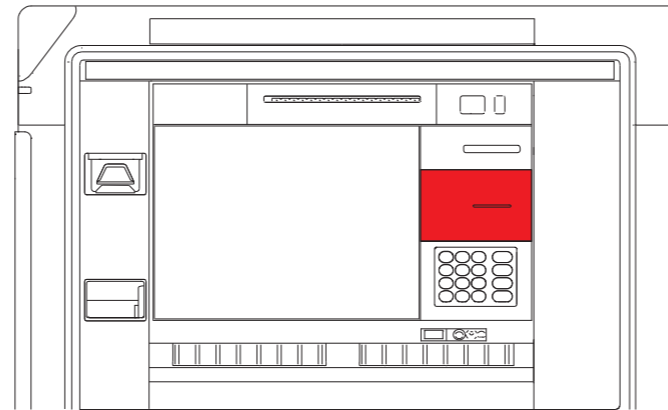
Suggested icon designs and wording are shown below:



CAUTION When placing any card reader decal, make sure that the label does not obscure the contactless card reader or card reader entry slot lights.

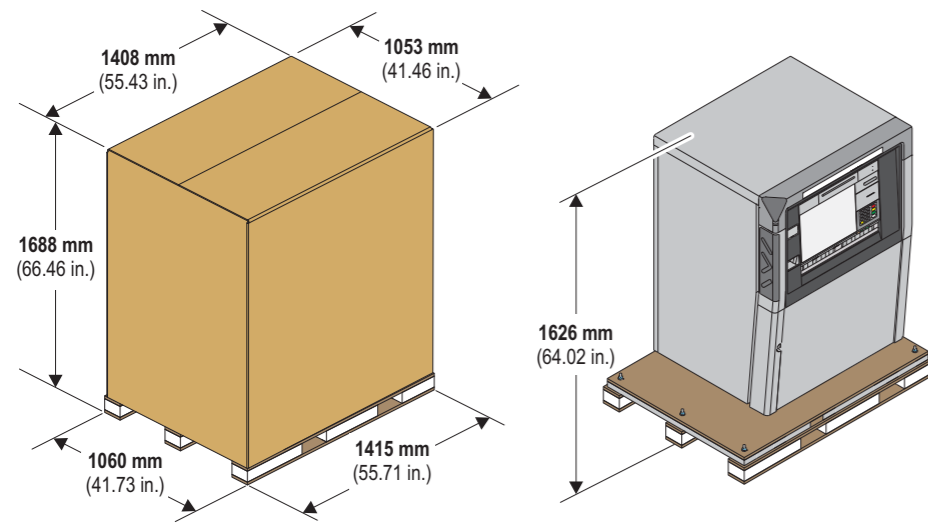


CAUTION Do NOT place any metallic coated or substrate label on the glass area around the CCR or card reader, highlighted below:

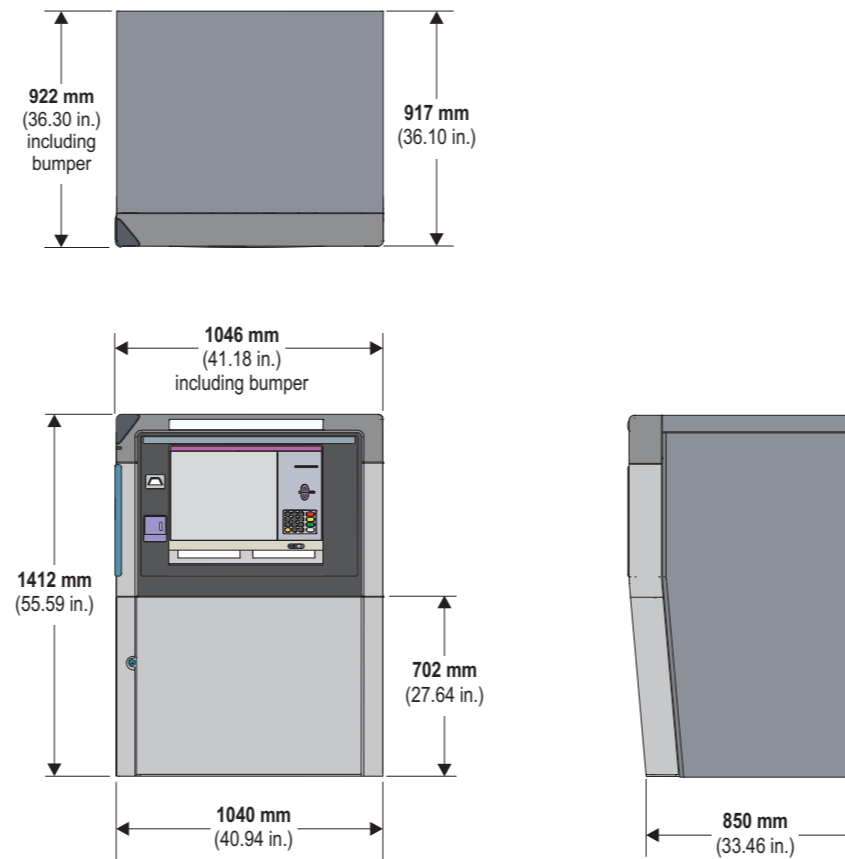


Decals

PACKAGE DIMENSIONS



ATM DIMENSIONS



WEIGHT

Standard Security Enclosures

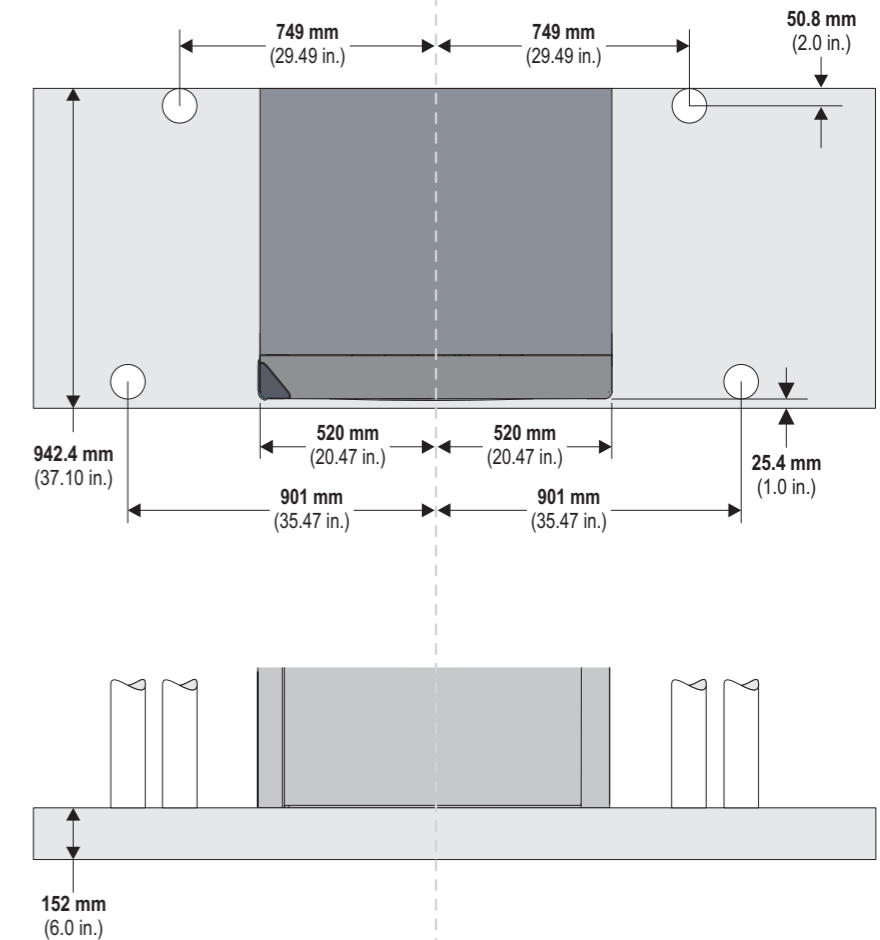
	CEN Grade 1
Maximum weight	983 kg (2167.1 lb.)
Floor loading	1596 kg/m ² (326.8 lb./ft ²)

ISLAND DIMENSIONS AND BOLLARD LOCATIONS

The illustration below shows the dimensions for the minimum island size.

NCR recommends that the rear bollards are **102 mm (4.0 in.)** in diameter, and positioned in line with the rear of the ATM, front bollards are **102 mm (4.0 in.)** in diameter and positioned **25.4 mm (1.0 in.)** back from the front of the island.

When locating the bollards allow sufficient working space for servicing the air conditioning unit.



Anti-theft Bollards

If anti-theft bollards (also known as anti lassoing bollards) are to be fitted, the bollard exclusion zone around the ATM must be complied with to allow sufficient access for removing panels, refer to the [Servicing Areas](#) section.

SECURITY BOLTS

The island, or base, must be capable of withstanding the loading imposed by the anchor points for the bolts. Bolts and anchors must be supplied by the owning organisation.

To ensure conformity to EN1143-1 Anchoring Strength Test, it is recommended that the ATM is bolted to the island, or base, through all six of the security enclosure bolt holes, using bolts with anchor washers as specified below. Bolts and anchor washers are to be supplied by the owning organisation.

Make sure that the island, or base, is capable of withstanding the loading imposed by the anchor points for these bolts.

If an adjustable plinth is used, it must be bolted to the island, or base, to the same specification as the ATM.

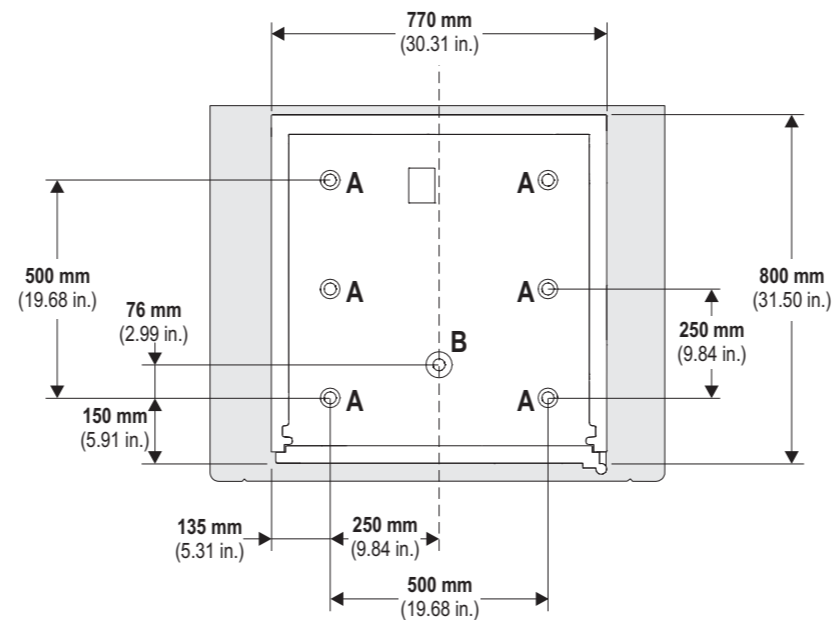
The minimum specification for bolts and washers to secure the ATM is:

- Bolts
 - Type - either resin anchor or shield anchor bolts
 - Size - **M16** (5/8 in.)
 - Minimum Length - **150 mm** (5.9 in.)
 - Strength - high tensile (minimum ISO property class **8,8**).
- Washers
 - Type - flat, steel (as per DIN7349 or equivalent)
 - Size - **M16** (5/8 in.)
 - Outer diameter - no greater than **40 mm** (1.58 in.)
 - Minimum thickness - **6 mm** (0.2 in.).

BOLT HOLES

The ATM should be bolted to the floor or plinth, through the holes marked 'A', using the six bolts with anchor washers.

The hole marked 'B' enables a security sensor to be fitted.



CABLE ENTRY

Cables enter the ATM through a hole in the base of the security enclosure. There should be a conduit hole in the island of sufficient size to allow the cables to be coiled ready to be brought into the security enclosure.

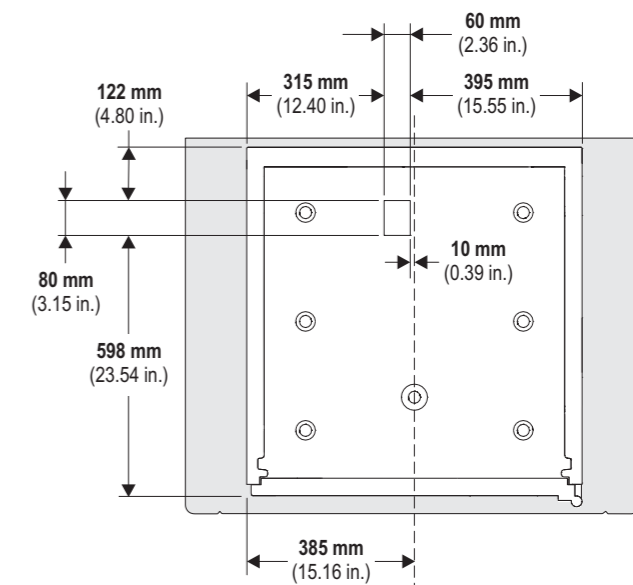
Make sure that the island conduit hole is free from any material that may impede the cables. The hole should not be sealed or filled with concrete.

The actual conduit hole may be larger than the that shown depending on the installation.

Distribution boxes and any power and wiring conduits must not protrude above the surface of the island.

ATM Cable Entry

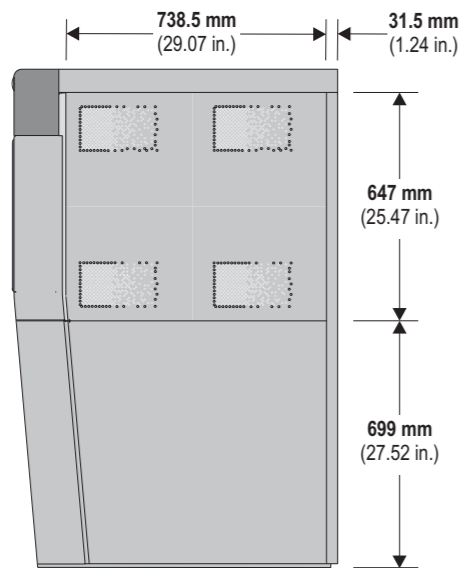
CEN Security Enclosure



VENTS LOCATION - AIR FLOW

Unrestricted air flow is required on the right-hand side of the ATM. There must be no obstruction of the vents at any time.

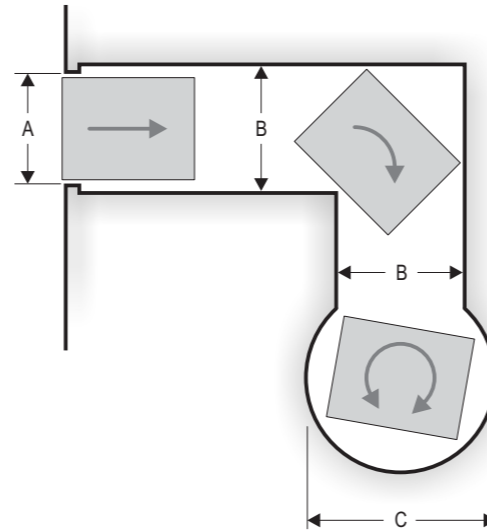
If a third-party surround/topper is fitted then equivalent venting or hot air extraction system must be installed within the surround/topper.



CLEARANCES - CORRIDOR

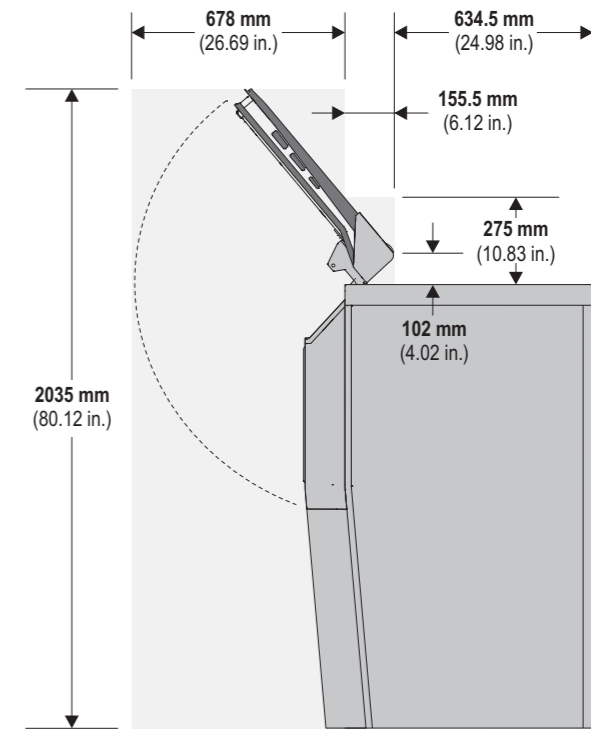
The dimensions shown assume the ATM is being moved using equipment that does not extend beyond the ATM or packaging.

A surrounding clearance of **6 mm (0.24 in.)** has been allowed in the dimensions.

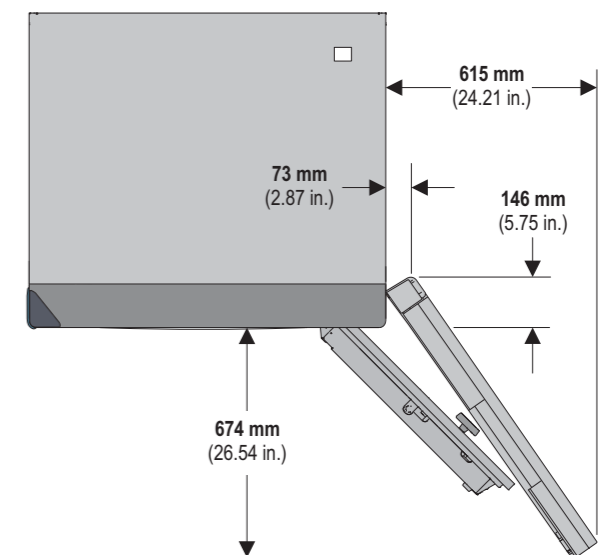


		Packaged ATM (pallet & carton)	Unpackaged ATM
A	Doorway or straight corridor	1072 mm (42.20 in.)	934 mm (36.77 in.)
B	Corridor with corner	1262 mm (49.69 in.)	1034 mm (40.71 in.)
C	Rotation about centre	1780 mm (70.08 in.)	1406 mm (55.35 in.)

CLEARANCES - FACIA OPENING

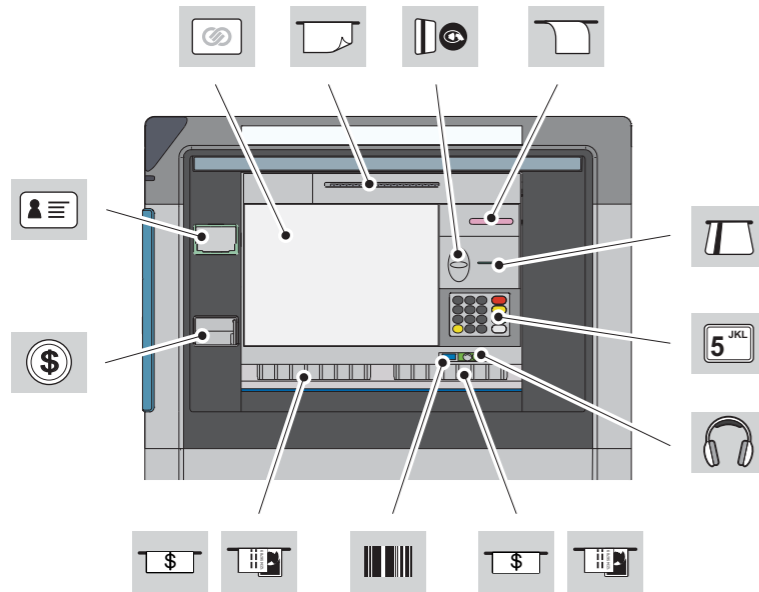


CLEARANCES - COSMETIC DOOR

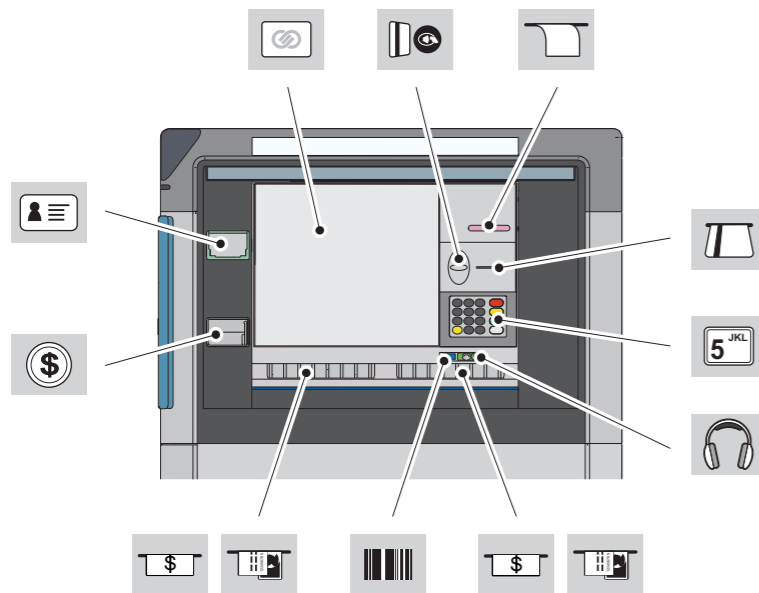


FACIA ITEMS

15" Touchscreen



19" Touchscreen



Touchscreen Dimensions

Touchscreen Size	Touchscreen Height x Width	Touchscreen Angle
15 inch	234 mm x 310 mm 9.21 in. x 12.20 in.	3 degrees from vertical
19 inch	305 mm x 380 mm 12.01 in. x 14.96 in.	3 degrees from vertical

Heights and Depths

Facia Item		Height from base of ATM	Depth from front of collar
Statement Exit		1265 mm (49.80 in.)	27 mm (1.06 in.)
Touchscreen 483 mm (19 in.)	Top	1241 mm (48.86 in.)	26 mm (1.02 in.)
Touchscreen 381 mm (15 in.)	Top	1182 mm (46.54 in.)	23 mm (0.91 in.)
Receipt		1181 mm (46.50 in.)	17 mm (0.67 in.)
ID Scanner		1149 mm (45.24 in.)	18 mm (0.71 in.)
Card Reader		1098 mm (43.23 in.)	18 mm (0.71 in.)
Contactless Card Reader (behind Facia)		1098 mm (43.23 in.)	18 mm (0.71 in.)
PIN Pad	Number 5 key	998 mm (39.29 in.)	12 mm (0.47 in.)
Coin Exit		923 mm (36.34 in.)	15 mm (0.59 in.)
Private Audio		898 mm (35.35 in.)	17 mm (0.67 in.)
Barcode Reader - Activation Point		875 mm (34.45 in.)	12 mm (0.47 in.)
Cash Exit/Entry		865 mm (34.06 in.)	28 mm (1.10 in.)
Scalable Deposit Module		865 mm (34.06 in.)	28 mm (1.10 in.)

Distance for Voice Guidance

Facia Item	No.5 Key		Audio Jack		
	Distance to Facia Item	Distance to Facia Item	Distance to Facia Item	Distance to Facia Item	
Card Reader	1	110 mm (4.33 in.)	1	202 mm (7.95 in.)	
Receipt	1	188 mm (7.40 in.)	1	283 mm (11.14 in.)	
Private Audio	6	101 mm (3.98 in.)	6	-	
Barcode Reader - Activation Point	7	134 mm (5.28 in.)	8	73 mm (2.87 in.)	
Cash Exit/Entry	Right hand	7	140 mm (5.51 in.)	8	65 mm (2.56 in.)
Scalable Deposit Module	Right hand	7	140 mm (5.51 in.)	8	65 mm (2.56 in.)
Scalable Deposit Module	Left hand	8	359 mm (14.13 in.)	9	349 mm (13.74 in.)
Cash Exit/Entry	Left hand	8	359 mm (14.13 in.)	9	349 mm (13.74 in.)
Coin Exit		8	548 mm (21.57 in.)	9	558 mm (21.97 in.)
Touchscreen 381 mm (15 in.)	Centre of screen	10	283 mm (11.14 in.)	10	333 mm (13.11 in.)
Touchscreen 483 mm (19 in.)	Centre of screen	10	290 mm (11.42 in.)	10	346 mm (13.62 in.)
ID Scanner		10	563 mm (22.16 in.)	10	610 mm (24.02 in.)
Contactless Card Reader (behind Facia)		11	104 mm (4.09 in.)	11	203 mm (7.99 in.)
Statement Exit		11	327 mm (12.87 in.)	11	419 mm (16.50 in.)

SERVICING AREAS

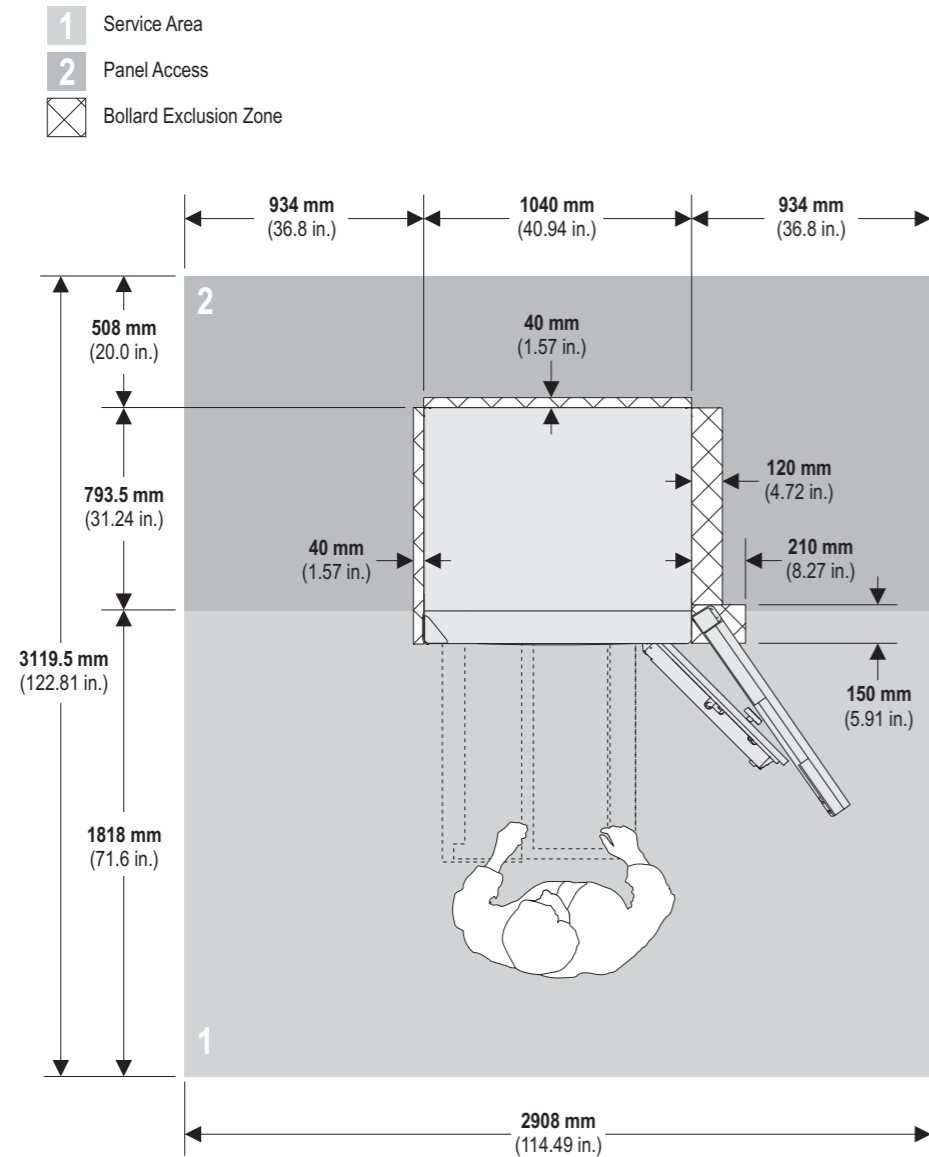
The optimum servicing area provides the best access to the ATM for all servicing and operation tasks.

Whenever possible the ATM should be installed within the optimum servicing area.

If the optimum area is not available then refer to Servicing Areas - Minimum. However note that installing the ATM in the minimum servicing area may increase the servicing and/or upgrading time over a ATM installed using the optimum area.

Always leave as much space as possible around the ATM to facilitate safe operation and servicing.

Optimum



Minimum

