UT430
Unattended Payment Terminal

Installation & User Guide

152-0004-14

QUEST
payment systems

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Contents

Introduction

Please read and understand these guidelines to ensure correct installation and successful commissioning of your UT430 Payment Terminal.

Note: The communication and power ports available on your UT430 will depend on the configuration chosen at the time of purchase. This guide illustrates a UT430 with all possible ports included.

Parts Checklist

Please check that your 'UT430 Standard Kit' contains the following items:

☐ **UT430 Payment Terminal**

☐ **2m Straight Cable (QT720 DB9F to 10P10C)**

☐ **12V, 1.2A Plug pack**

☐ **Fastener Kit** (2x M4 Nylok Nuts, 2x M4-25L Thumbscrews, 4x Plain Washers)

Optional Accessories (available for purchase. Contact Quest on +61 3 8807 4400)

1. **USB cable** (To connect UT430 to the Machine controller)

2. **Ethernet Communications module** (Ethernet cable required, not supplied).

3. **3G Communications module**

Product Overview
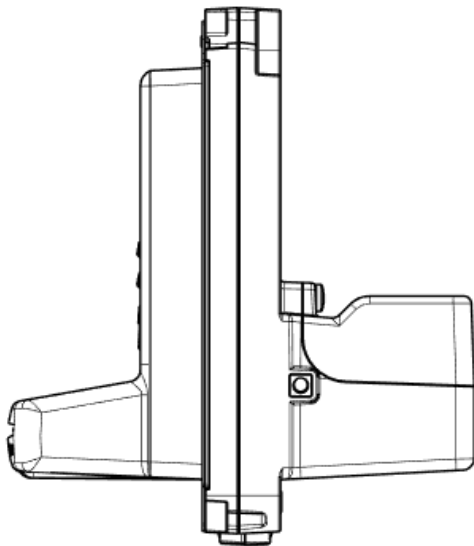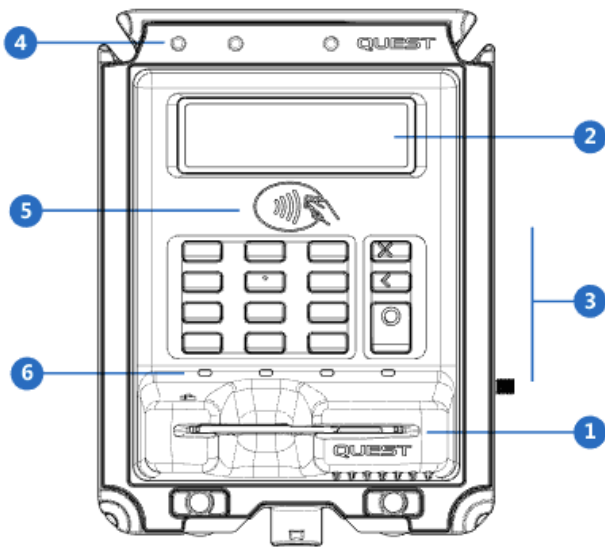
1. Contact Card Reader
2. Display
3. PIN Entry keypad
4. Removal detection switches
5. Tap Zone - Contactless cards
6. Contactless transaction status indicators
7. Power indicator
8. Backplane connections
9. Drain tube attachment
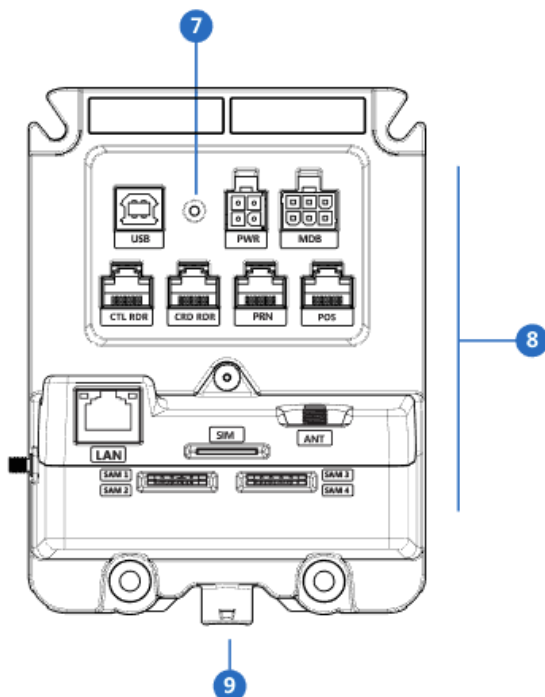
Machine Requirements

PANEL MOUNTING

UT430 has been designed to fit the recommended hole size as prescribed by the European Vending Association, document: CASHLESS VENDING SPECIFICATION EVA CVS 1.3

1. **Cut-out Size:** 86.4 x 108.7, 4mm Max Corner Radius (3mm minimum)

2. **Mounting Substrate:** Minimum - 1.6mm Mild /Stainless steel, 2.0mm Aluminium

3. **Hardware required on Panel:** M4 x 25mm Studs (Clinch or Weld)

4. **Fasteners required:** See Fastener Kit (provided)

5. **Tools required:** 7mm (M4) Socket
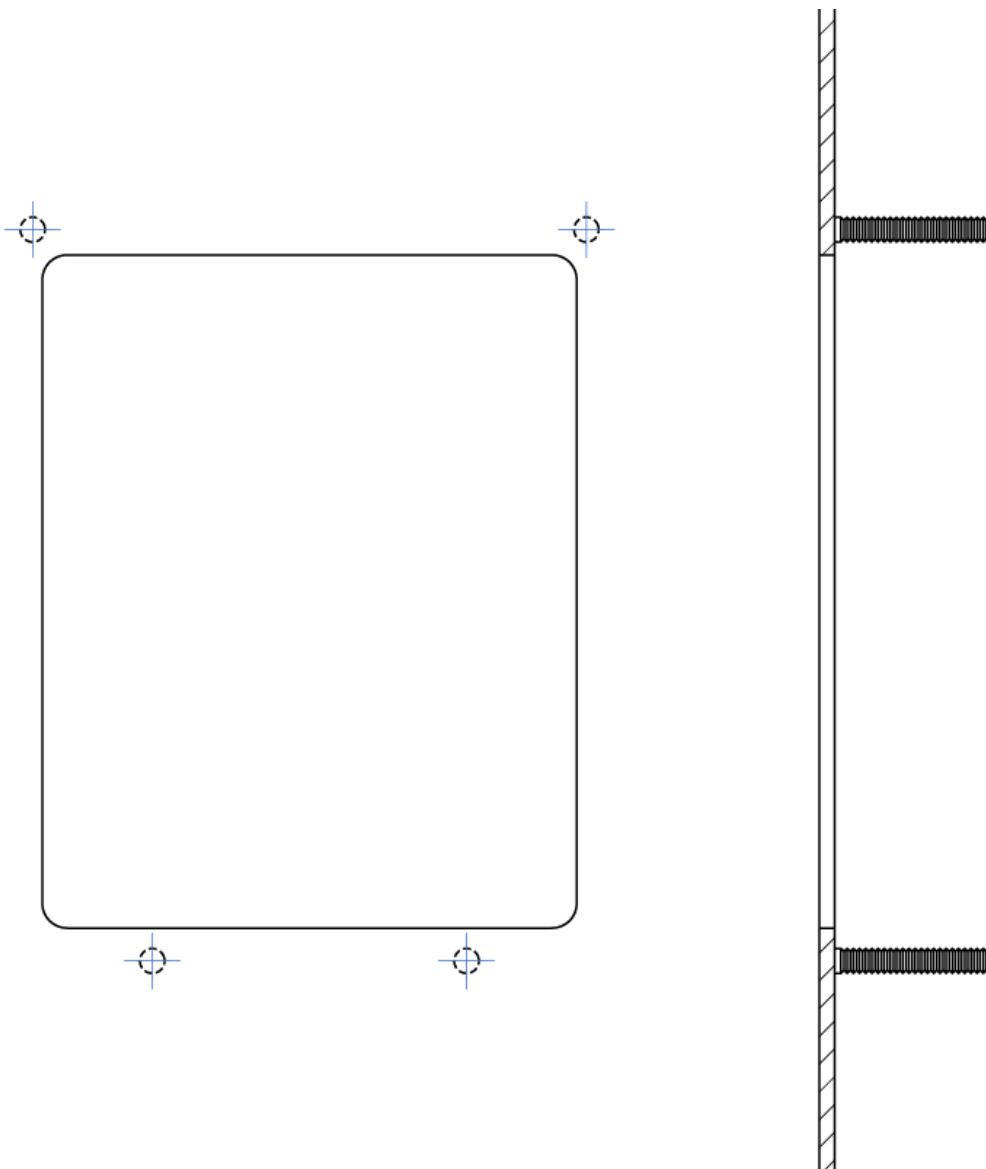
PANEL CUTOUT- See Appendix A for a complete detailed drawing

INTERNAL CLEARANCE SPACE REQUIRED

Please observe the space requirements inside the machine.

⚠ **IMPORTANT** ⚠

Note: If UT430 is connected via Ethernet, a clearance greater than 20mm may be required behind UT430 (dependant on cable style)

15mm

104mm

USB PWR MDB

CTL RDR CRD RDR PRN POS

LAN SIM ANT

SAM 1 SAM 2 SAM 3 SAM 4

138mm

>5mm

71mm

Allow space for Drain tube connection
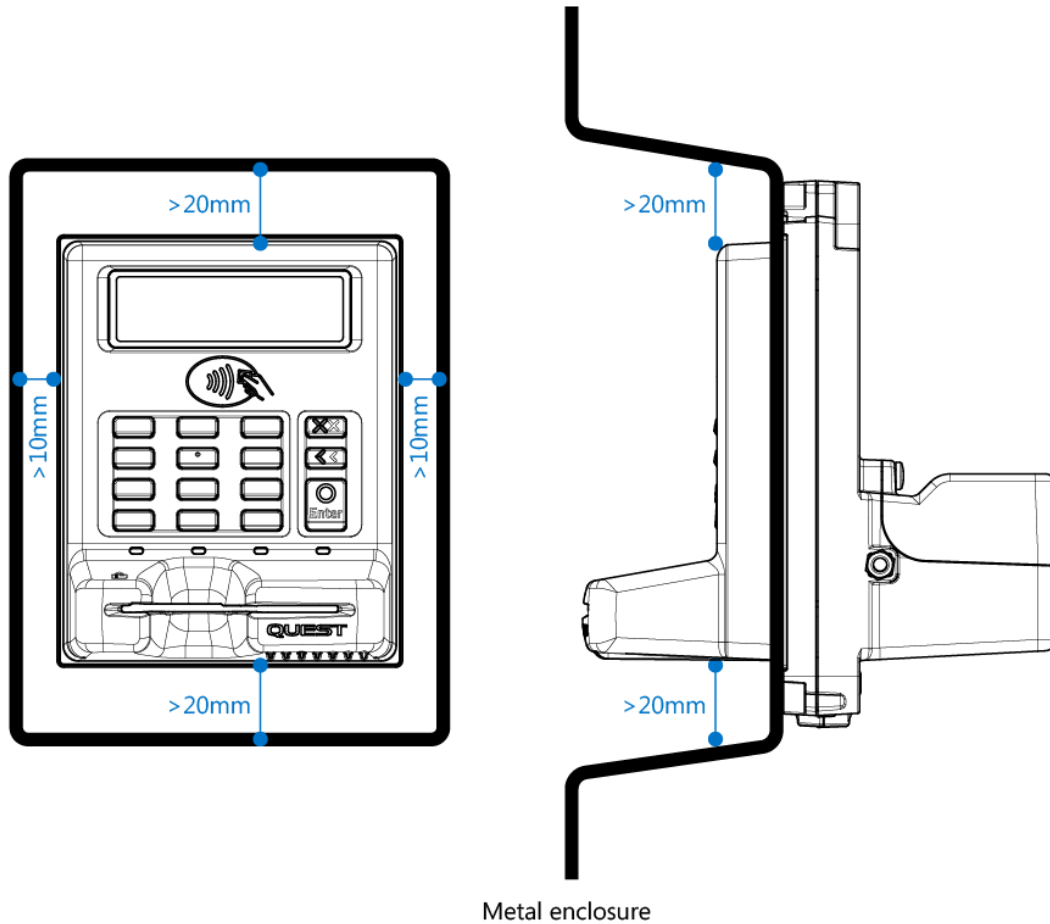(if required)
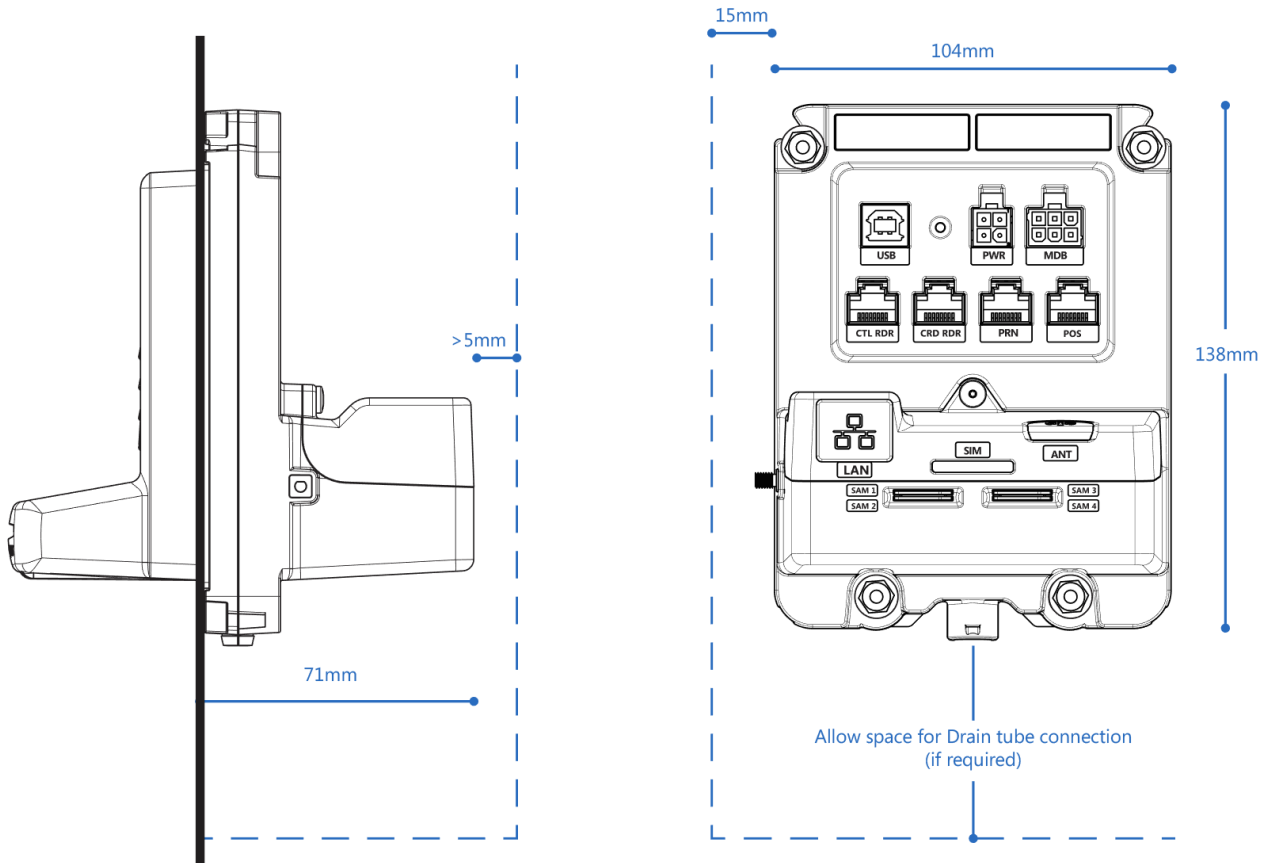
EXTERNAL CLEARANCE SPACE REQUIRED

Please observe the space requirements outside the machine.

⚠️ **IMPORTANT** ⚠️

Note: Ensure the sides of the metal enclosure near the protruding portion of the UT430 are kept the minimum distances away as shown below. This will ensure reliable operation of the Contactless reader.

Metal enclosure

MECHANICAL SECURITY

If UT430 is mounted on a hinged door or fascia panel, ensure the door or panel cannot be removed during normal operation. This aspect is important to maintaining your PCI compliance.

RECOMMENDATIONS FOR PIN ENTRY PRIVACY

1. It is imperative that UT430 is installed in the machine in such a manner that prevents visual observation of the PIN entry process. To achieve this, ensure that:

2. Display instructions for the card holder to shield the PIN entry with his/her body.

3. If security cameras are to be used on site, they must be installed in such a manner that it is not possible to view or record the PIN entry process.

Installation into a Machine

⚠ **IMPORTANT** ⚠

As a requirement of PCI v3.x, UT430 includes a 'Removal Detection' feature which is comprised of physical sensors which detect if UT430 has been properly installed or removed. Only correct installation will allow transactions to occur.

TOOLS REQUIRED

1. 7mm (M4) Socket

ASSEMBLY TO MACHINE

⚠ **IMPORTANT** ⚠

IMPORTANT: Ensure UT430 is fitted with the Black Silicone Gasket on the internal flange. This component is critical to successfully installing the device.

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1. Ensure machine has been designed in accordance with the recommended cut out and mounting studs prior to beginning installation (see Appendix A)

2. From inside the machine, place UT430 through the cut out and over the internal mounting studs. (UT430 is designed to protrude through the hole in the machine)

3. Starting with the top 2 studs, fit the provided plain washer and M4 Nylok nuts onto the studs. Ensure Nylok nuts are firmly tightened with #7 Socket Tool.

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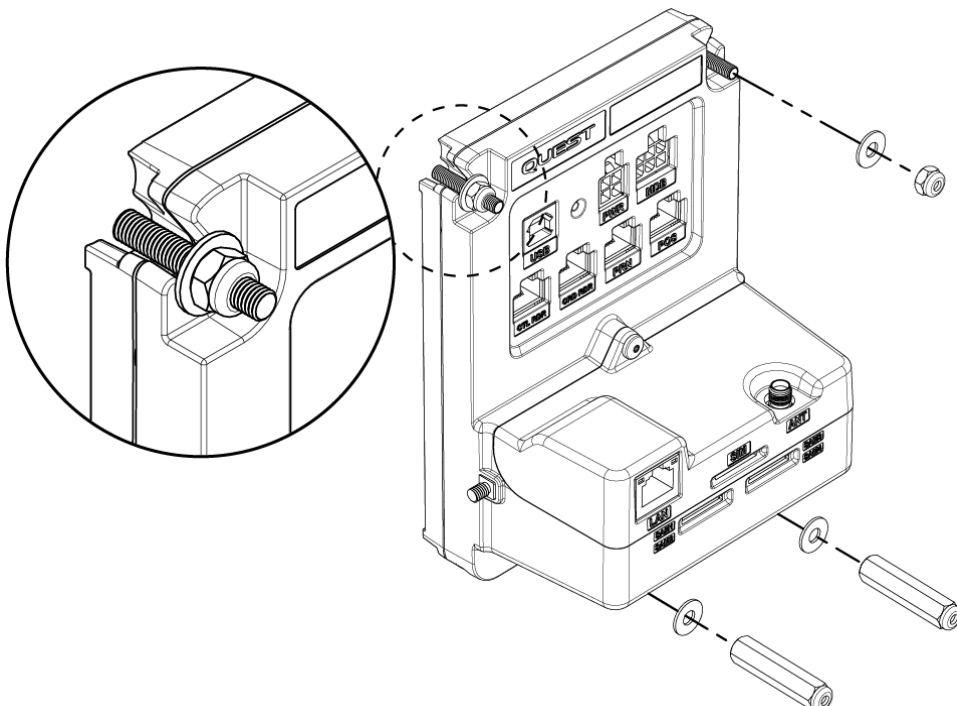
4. Fit plain washers on both bottom studs and fit the M4 Thumbscrews - finger tight only.
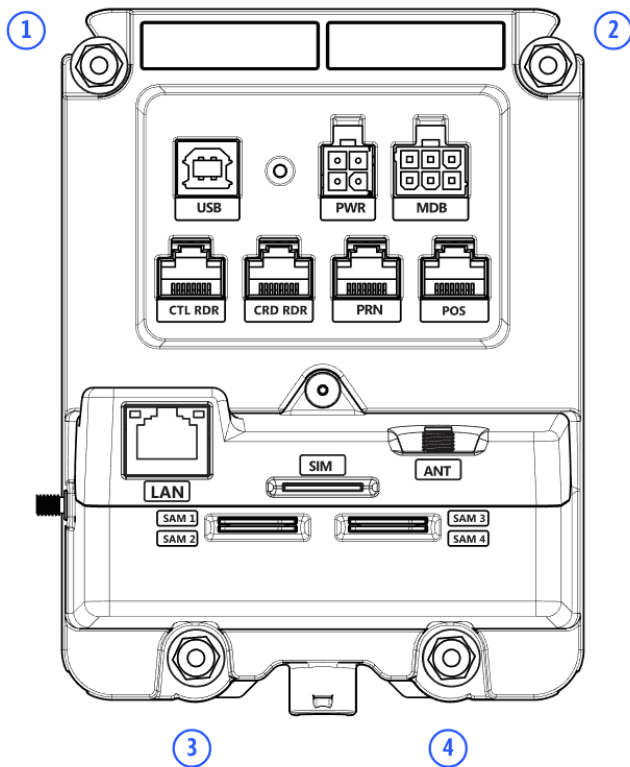
FASTENER LOCATIONS

1. Plain Washer + M4 Nylok Nut
2. Plain Washer + M4 Nylok Nut
3. Plain Washer + M4 Thumbscrew
4. Plain Washer + M4 Thumbscrew

5. Check operation of Card slot by inserting a card, if the card does not slide freely, loosen the thumbscrews until the card slot is free running.

6. Ensure there is no rattle and no visible gap between the flange of UT430 and the machine mounting surface.

7. Mechanical installation of UT430 to the machine is now complete. Visually inspect the outside of the Machine and UT430. Also check that the machine can be closed and no interference exists between UT430 and other internal components / mechanisms.

⚠ **IMPORTANT** ⚠

Do not connect to the UT430 earth point. The earth point is not to be used.

DRAIN TUBE

If UT430 is situated where moisture could enter the card slot, a Vinyl drain tube should be fitted to direct water safely out of the machine. The tube can be pushed onto the barb fitting on UT430. The other end of the tube must exit the machine in a safe manner. Length and exit location of tube to be determined by machine manufacturer.

Hazard: Do not drain water near any electrical devices / connections

◄------ Clear Vinyl Tube - Internal Diameter 13mm
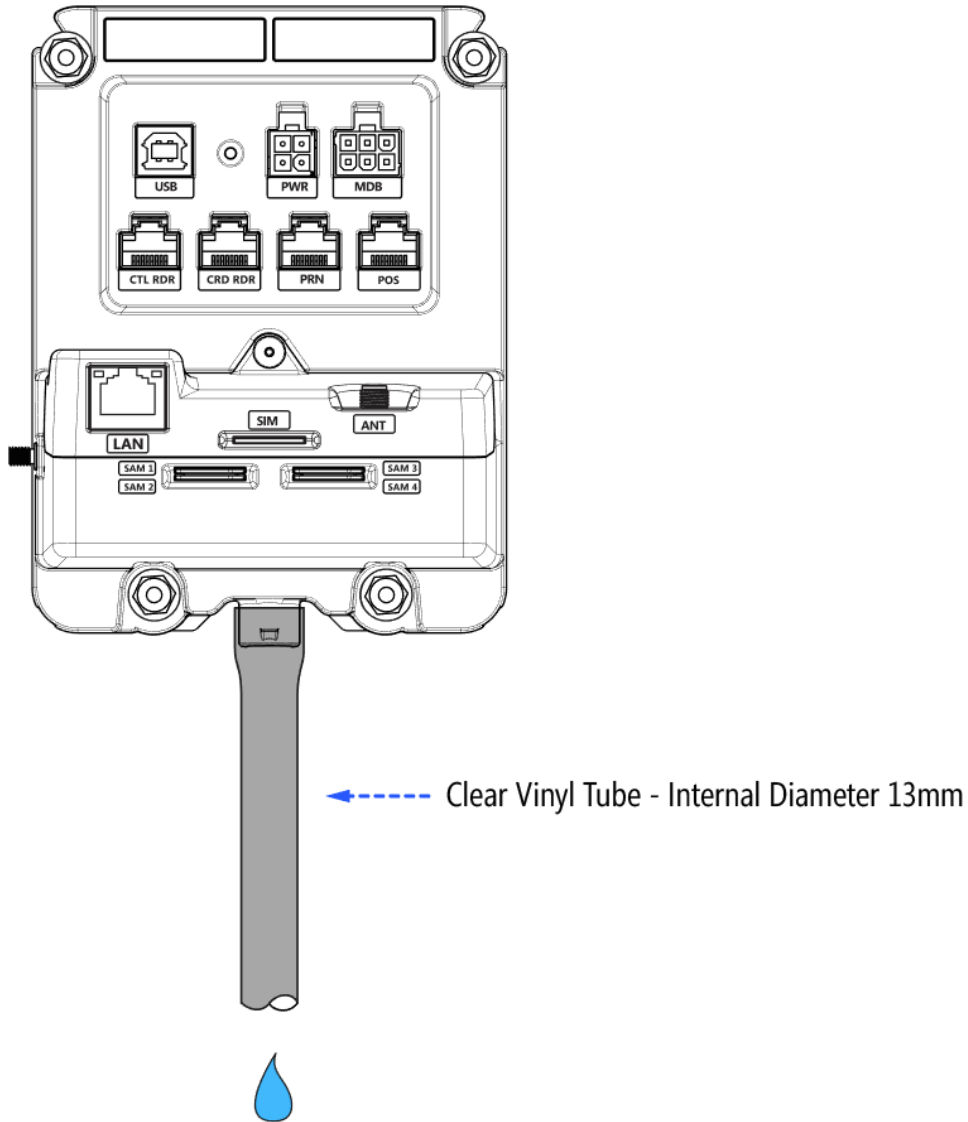
⚠ **NOTE** ⚠

Vinyl Drain tube is not supplied as standard by Quest.
Periodically check the tube for build-up and blockages. A blockage could prevent moisture draining out of the UT430 card slot.

Power Requirements & Communications
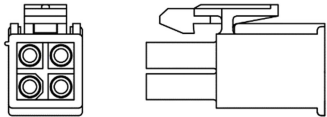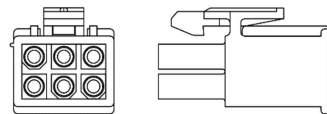
> ⚠️ **NOTE** ⚠️
>
> *The UT430 must be supplied by a Limited Power Source (LPS) or a Class 2 power supply in accordance with the U.S. National Electrical Code.*

POWER REQUIREMENTS

Input Voltage Range	5V-34V DC, 14.4W max

Power can be supplied to UT430 in 3 different ways dependant on your implementation. Choose **one method** below:

1. **POS Port** (using the Quest Serial Connection Kit with 12V adaptor – supplied as standard)	**RJ 8P8C**
2. **PWR Port**	**Mini Universal Mate-N-Lok (TE Connectivity)** - 4 POS Plug Housing (Mfr Part No. 172167-1)
3. **MDB Port**	**MiniFit Jr Plug Housing, Dual Row (Molex)** - 6 POS Plug Housing (Part No.39-01-2060)

Note: When UT430 is connected to a Machine controller and power is supplied, a green LED will illuminate on the back of UT430 (next to PWR connector).
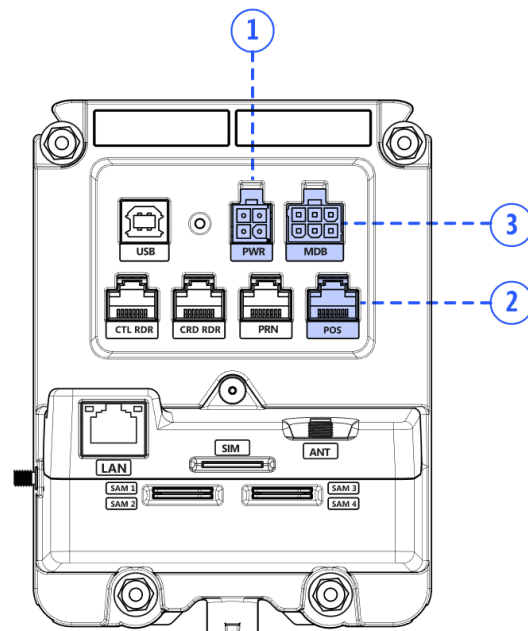
Communications Setup

1. SERIAL CONNECTION

Connect UT430 following the instructions on the diagram below:

- the **Modular plug** to the UT430 modular socket labelled <u>POS</u>
- the **DB9 POS plug** to the Machine controller
- the **12V Power Adaptor** to a 240V Power outlet (GPO)

<u>POS</u> port pinout on UT430

Pin	Signal	Description
1	NC	Not Connected
2	POS-TX	POS Transmit (Output)
3	POS-RX	POS Receive (Input)
4	POS-VS	POS 12V Supply Voltage ** Required, if powering via serial port on machine**
5	GND	Ground
6	POS-RTS	POS Request to Send (Output) **Optional**
7	POS-CTS	POS Clear to Send (Input) **Optional**
8	NC	Not Connected

⚠ Note: When power is applied to UT430, the 'Power Status LED' will illuminate.

2. USB CONNECTION (OPTIONAL)

UT430 has a full size 'B type' socket. Connect the 'B type' end of your USB cable to the socket labelled <u>USB</u>. Connect the other end (type A) to the USB port on the machine controller.

The USB port is for communications only. Power must be supplied by either:

1.   **Using the Quest Power supply**
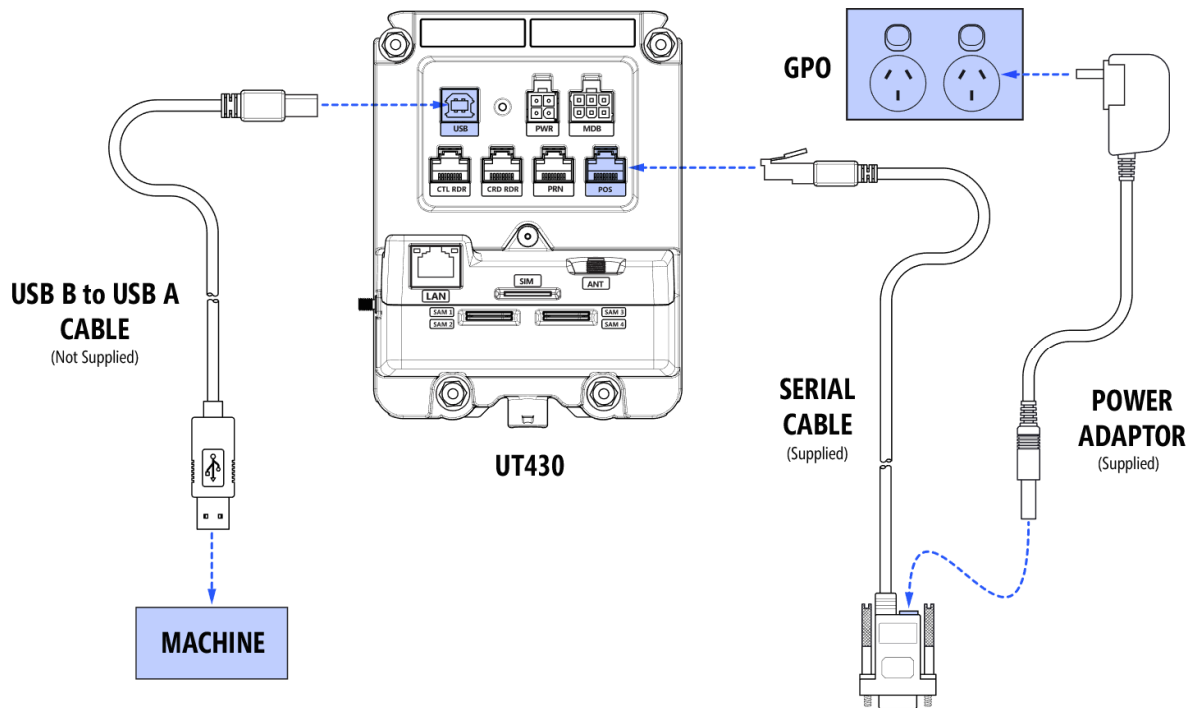
2.   **Or, fitting a 12V cable to the <u>PWR</u> port** *(See Power requirements section in this document)*
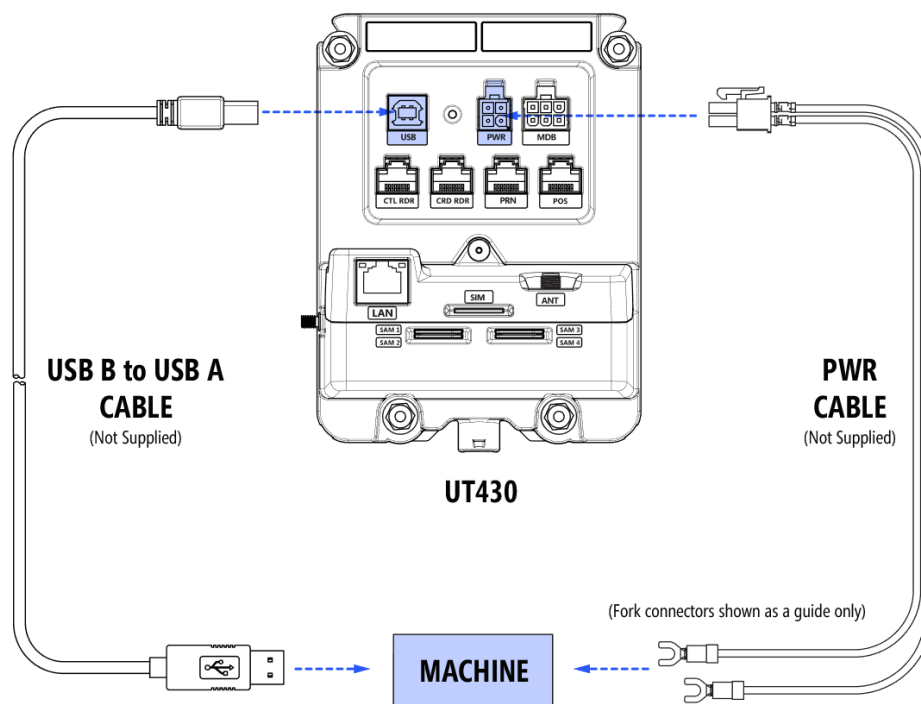
USB port pinout on UT430

"B" socket from front
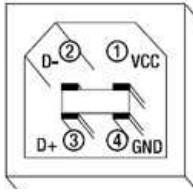
Pin	Signal	Description
1	VCC	+5V
2	D-	Data -
3	D+	Data +
4	GND	Ground

3. MDB (MULTI DROP BUS) CONNECTION (OPTIONAL)

Connect UT430 by fitting:

▪ the **MDB cable** from the machine controller to the 6 pin socket labelled <u>MDB</u>

MiniFit Jr Plug Housing, Dual Row (Molex)

- 6 POS Plug Housing (Part No.39-01-2060)
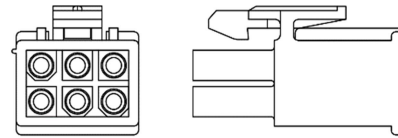
<u>MDB</u> port pinout on UT430
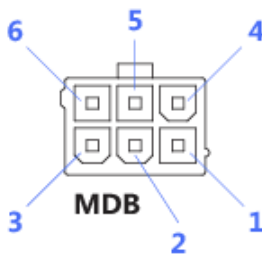
Pin	Signal	Description
1	MDB-VS	MDB Supply Voltage
2	GND	Ground
3	WAKEUP	MDB Bidirectional Wakeup
4	MDB-TX	MDB Transmit (Output)
5	MDB-RX	MDB Receive (Input)
6	MDB-GND	MDB Isolated Ground (for MDB-TX and -RX)

4. ETHERNET CONNECTION (OPTIONAL)

UT430 has a modular 8P8C connector (commonly referred to as RJ45) that follows the TIA/EIA-568 wiring standard. If an optional Ethernet Communication module has been fitted to UT430:

■ Connect your **LAN Cable** to the UT430 socket labelled <u>LAN</u>
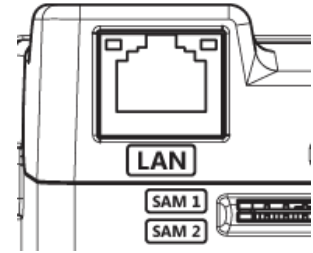
The Ethernet port is for communications only. Power must be supplied by either:

1. **Using the Quest Power supply**
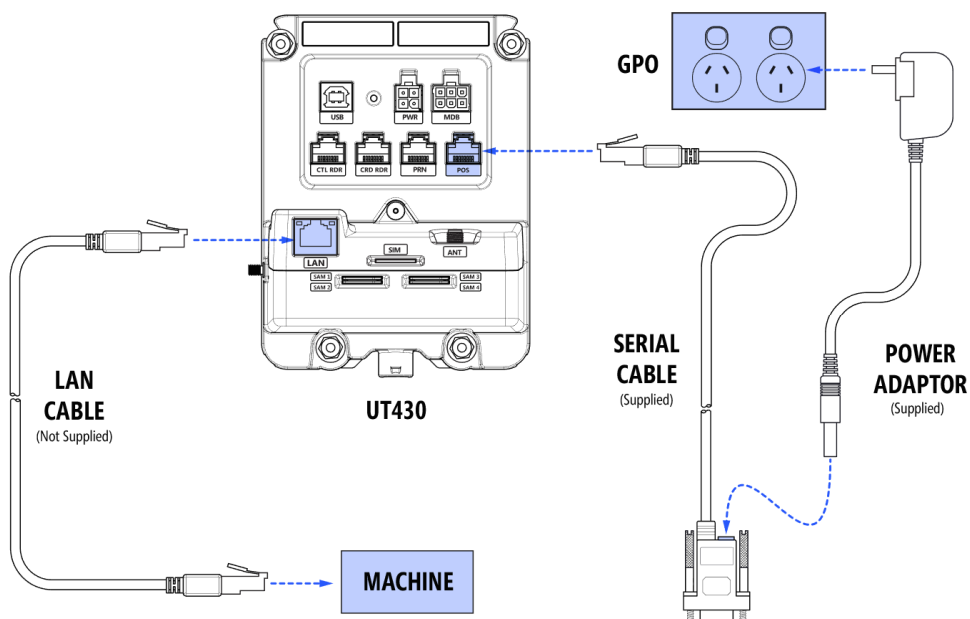
2. **Or, fitting a 12V cable to the <u>PWR</u> port** *(See Power requirements section in this document)*
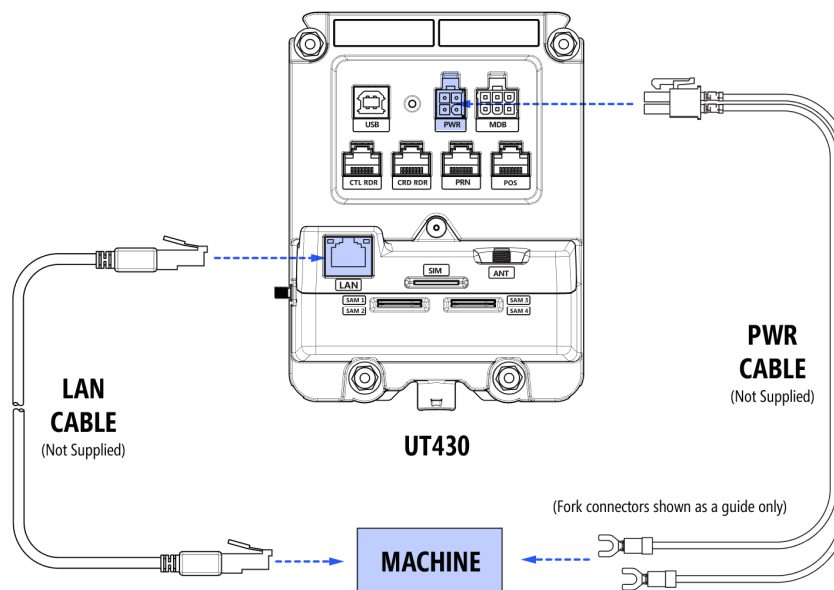
Connecting a Printer (optional)

UT430 allows connection of one Slave RS-232 Serial Receipt printer.

- Connect the **Modular plug** from the printer to the socket on UT430 labelled <u>PRN</u>

<u>PRN</u> port pinout on UT430

Pin	Signal	Description
1	NC	Not Connected
2	PRN-TX	External Printer Transmit (Output)
3	PRN-RX	External Printer Receive (Input)
4	NC	Not Connected
5	GND	Ground
6	PRN-RTS	External Printer Request to Send (Output)
7	PRN-CTS	External Printer Clear to Send (Input)
8	NC	Not Connected

3G Enabling (optional)

UT430 is designed to accept a 3G Communications module (only available from Quest). The standard configuration of UT430 does not include this 3G module unless arranged prior. However, the module can be fitted in the field by a qualified technician (contact Quest to obtain detailed instructions).

To enable 3G communication on the UT430 you will need the following:

1. 3G Communications module from Quest, installed into the UT430

2. 1/4" SMA Coaxial External Antenna

3. Cellular SIM card (Size: Mini SIM, 25mm L x 15mm W)

ANTENNA REQUIREMENTS

When choosing a broadband antenna, ensure the connector on the cable is:

- Standard Male SMA

- Screw-on coupling, 1/4"- 36 threads (internally threaded)

- Male Pin (Standard polarity)

INSTALLATION

1. Ensure UT430 is off (no power connected)

2. Locate the SMA connector on the back of the UT430 (labelled ANT)

SMA ANTENNA CONNECTOR

3. Connect your external antenna (do not over tighten). *Note: If fitted, remove the protective cap from the SMA on UT430 and screw the antenna cable onto the SMA*

4. Orientate your SIM Card as shown below and push it into the slot marked SIM until you feel a click, now release your finger
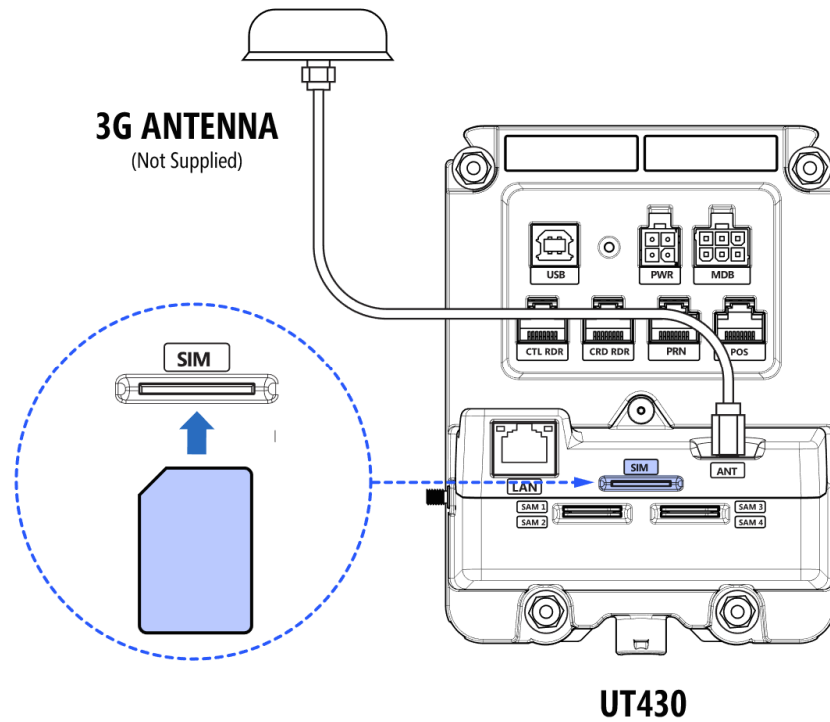
5. Connect power. Power must be supplied by either:
   a. **Using the Quest Power supply**
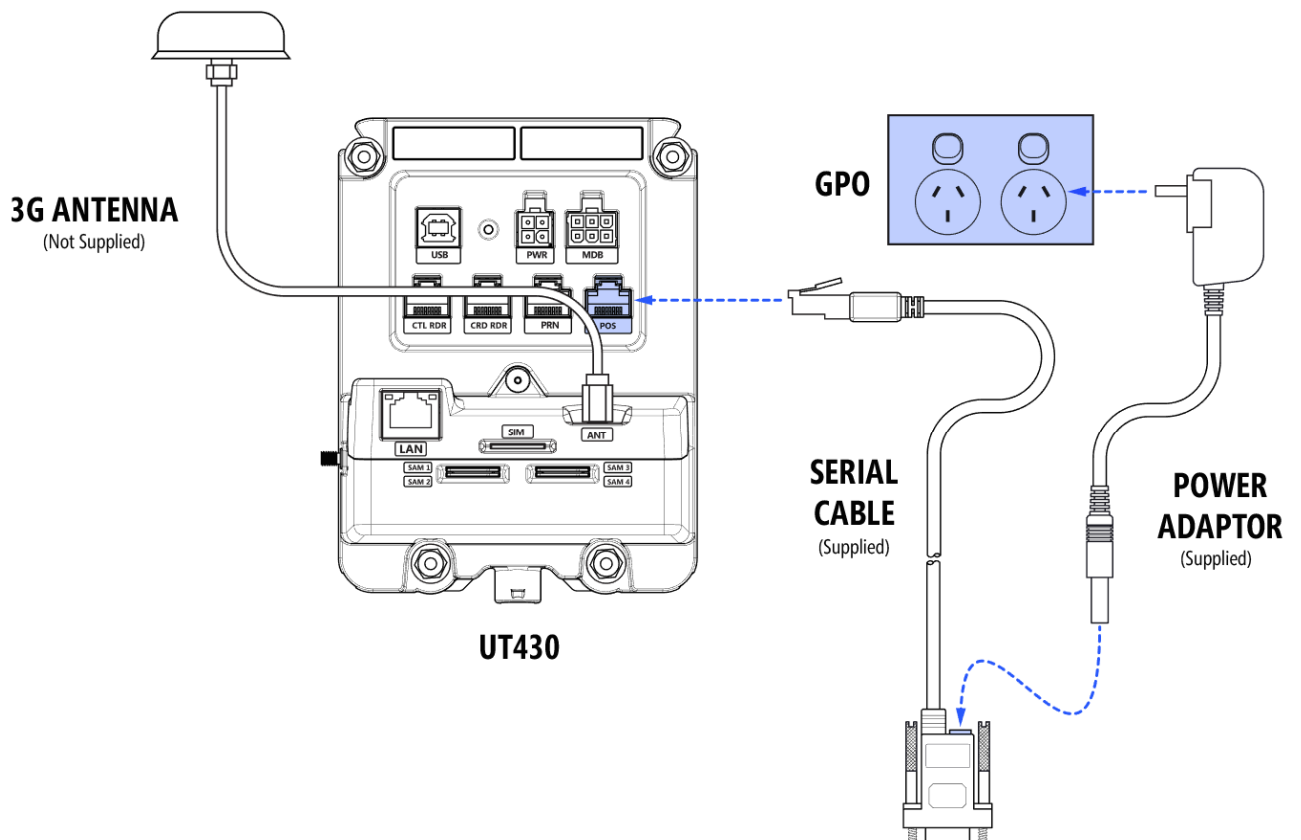
b. **Or, fitting a 12V cable to the <u>PWR</u> port** *(See Power requirements section in this document)*
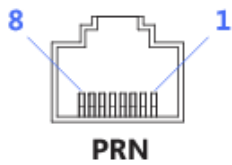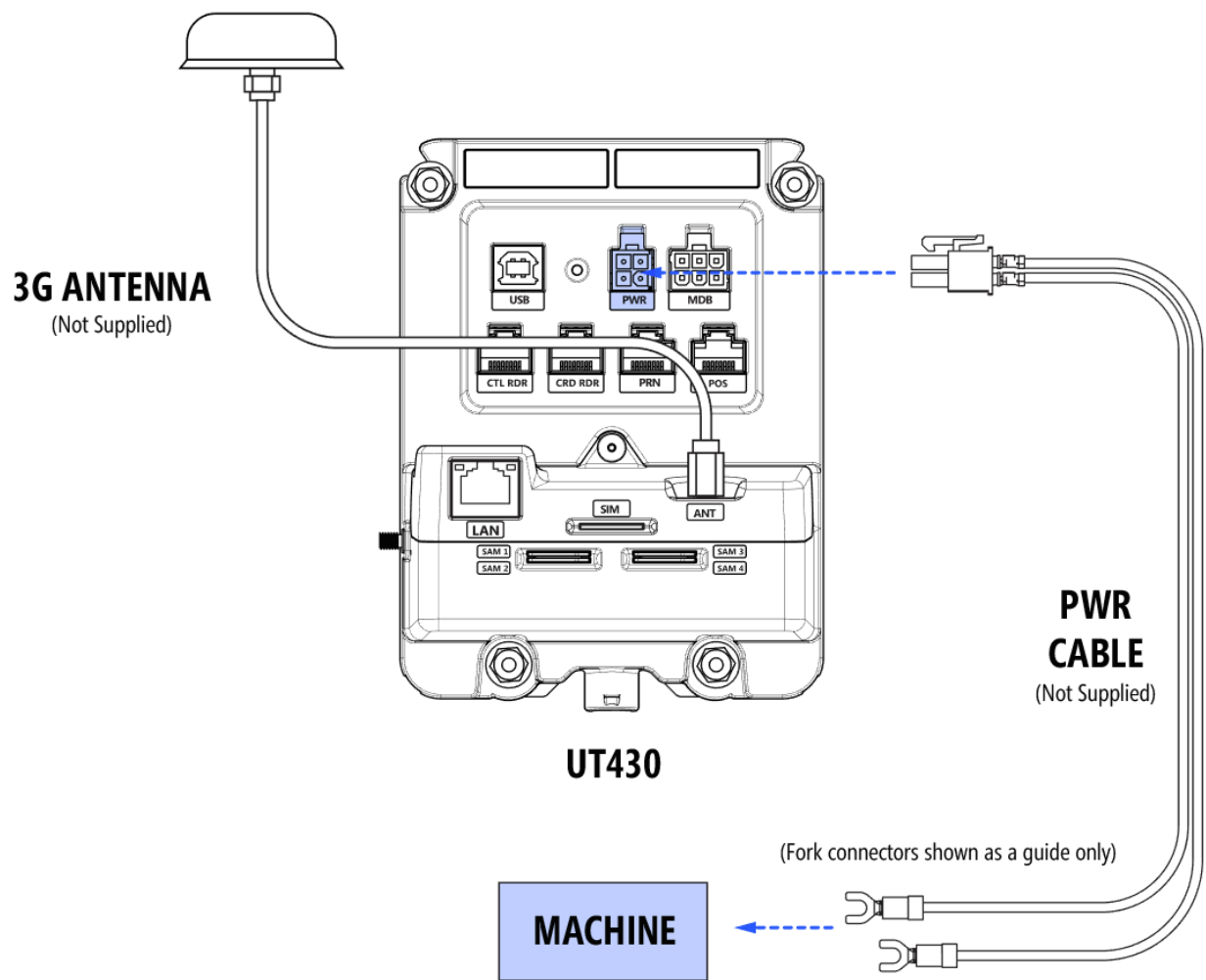

TO REMOVE THE SIM CARD

1. To remove the SIM card, push to eject it, then simply pull the card out.

Contactless - SAM Card Installation (optional)

If you require SAM functionality, fit a SAM card as per instructions below.

- Capacity: 4 Slots
- Card Size: Mini SIM (25.00mm Long x 15.00mm Wide)
- Fit the SAM cards in order (ie. If fitting only one SAM, fit it to the slot labelled SAM1)

INSTALLATION

1. Orientate the SAM Card as shown below and push into slot until card stops. (Note: a fully installed SAM card will protrude 4mm)
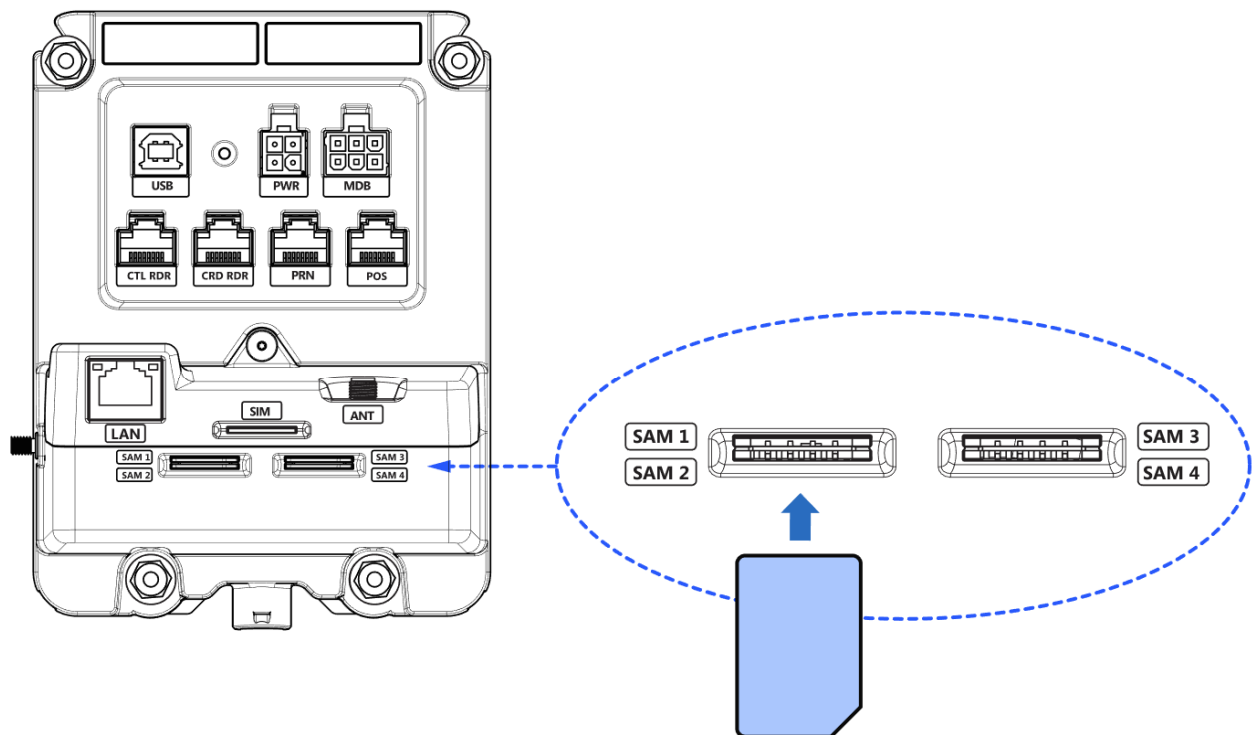
REMOVAL

1. To remove a SAM card, use your fingers to pinch the protruding portion of the card and withdraw it.

Commissioning UT430

Commissioning a UT430 can only take place once the unit is fully installed into the machine as described earlier in this document.

UT430 is preloaded by Quest with your nominated Bank's keys, and an agreed Passcode file.

Once the installer completes the first installation of UT430 into the machine and connects power, the device will be ready for normal operation.

If anyone disassembles the UT430 from the machine after the first installation (even if power remains connected), the removal detection mechanism on the UT430 will activate, and transaction processing will be disabled.

To re-enable transaction processing, you will need to contact Quest. The Quest Support desk will generate a new Unlock / Passcode file which is required to re-commission UT430.

This process forms part of your PCI Compliance.

Quest Support Desk

Support Phone: +61 (3) 8807 4444

Support Email: support@questps.com.au

General Operation

When prompted, insert your **card** with the magnetic stripe facing down and to the right (if the card has a Chip, it should face upwards).

Push the card all the way in until it stops. If the card has a chip, then leave the card inserted and follow the prompts.

If the card is Magnetic stripe only, you will be prompted to remove the card (UT430 will read the magnetic stripe when withdrawing the card from the device)
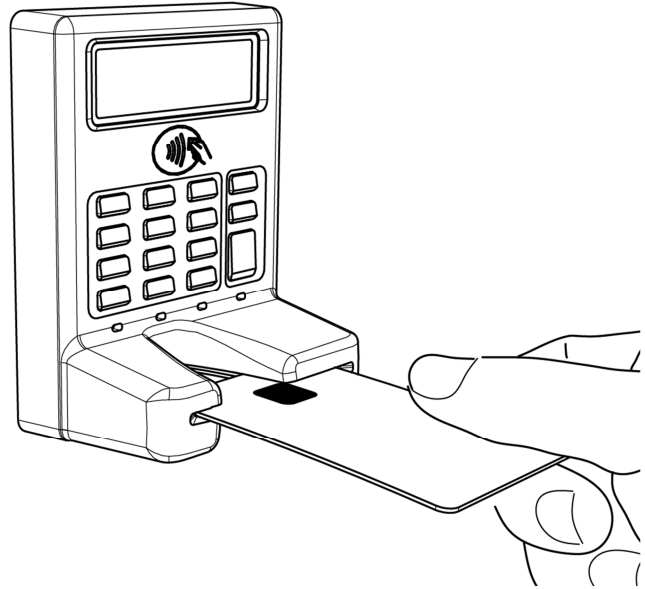
When prompted, tap your Contactless enabled card near the contactless symbol. The 4 light indicators will illuminate indicating transaction progress.
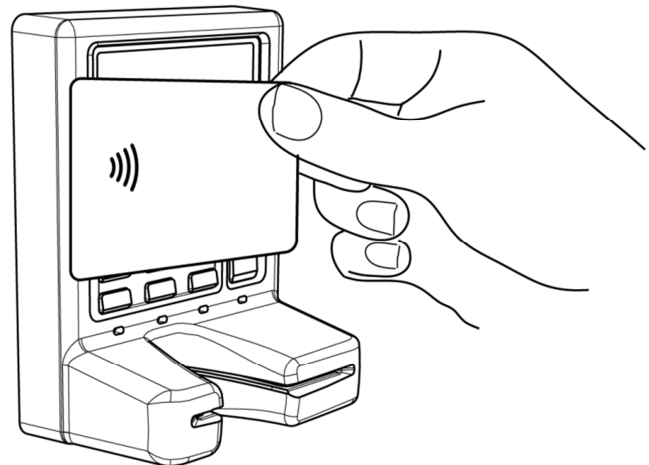
If appropriate, you may be prompted to select an account type.

- Press 1 for **CHQ**
- Press 2 for **SAV**
- Press 3 for **CR**
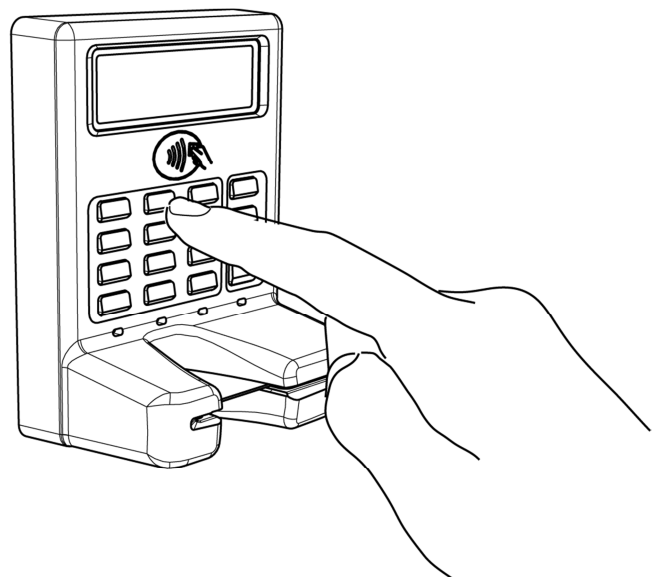
Software Controls

UT430

The following section outlines commands that can be performed on the **UT430** Keypad.

1. To accept a prompt: Press Enter

2. To decline a prompt: Press X (Cancel)

3. To enter menu: Hold X (Cancel) & Press 4

4. To move UP the menu list: Press ^

5. To move DOWN the menu list: Press v

6. To perform a Reboot: Hold X (Cancel) & Press 8

General Cleaning

- To remove dust, dirt and grime, slightly dampen a soft cloth with slightly soapy water and wipe over the outside (customer facing) portion of UT430.

- Do not use harsh abrasive cloths.

- Do not use harsh chemical cleaners.

⚠ **IMPORTANT** ⚠

Note: Be aware of the Printed logos on the front of the device. Aggressive cleaning can affect the legibility of these logos.

Card Reader Cleaning

Card Reader Cleaning Cards are designed to clean the Magnetic stripe reader (MSR) and Smart card / EMV (chip and pin) card reader. UT430 uses a hybrid reader where both MSR and Chip & PIN readers are combined in the one card slot.

Card readers use electrical contacts to allow communication between the customer Card and UT430. Keeping the card reader contacts clean is essential to UT430 being able to read information from the card.

Frequency of cleaning is dependent on the environment the device is situated, and transaction volume. A protected/clean site may only need the Card reader cleaned every ~3 months, a dusty environment may require more frequent cleaning.

It is recommended that your business implement an ongoing maintenance plan to use a suitable 'Card Reader Cleaning Card' to help avoid unnecessary card misreads and maximise the service life of UT430. Speak to Quest Support if you require further assistance.

Stolen Devices

If a UT430 is stolen, you must immediately notify the following parties:

1. **Your Bank**
   Ask your Bank to cancel the PINpad ID and Terminal ID associated with the stolen terminal

2. **The Police**
   File a report with your local police station so they aware and investigate the incident

3. **Quest Payment Systems**
   Provide Quest with the details surrounding the theft, as well as the serial number of the stolen unit so it can be monitored for any future movement. If applicable, an EftposPlus Incident Report covering a period prior to the theft should also be provided so we can confirm the details provided to the bank.

Quest Support Desk

Support Phone: +61 3 8807 4444

Support Email: support@questps.com.au

Technical Support - Contact information

Please refer to your maintenance agreement for specific information on available contact hours.

When seeking support, please have your serial number ready.
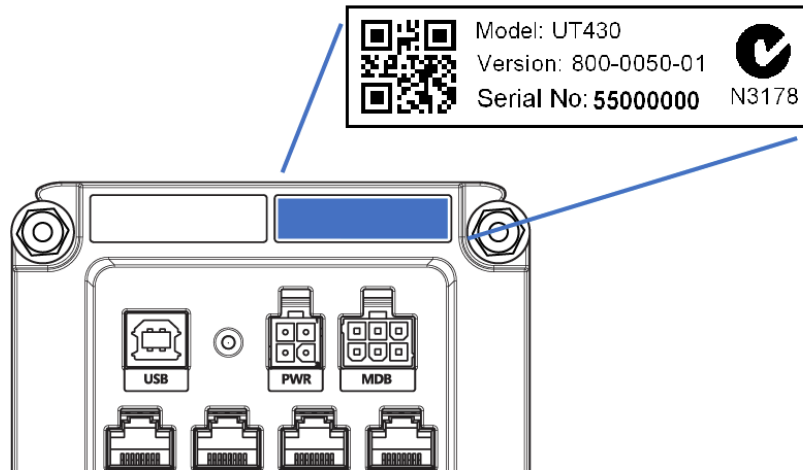
Quest Support Desk

Support Phone: +61 3 8807 4444

Support Email: support@questps.com.au

Hardware Returns

If you're experiencing an issue with the UT430 product, please call us. Our Support team may be able to resolve your issue over the phone. If not, we may advise you to return the hardware to us for review and repair.

When returning hardware, simply follow the steps below:

1. If possible, first clear any offline transactions from your terminal. Call Quest support for instruction.

2. **Download** and complete the 'Quest Hardware Return Form'.
   Go to: www.questpaymentsystems.com

3. Send your completed printed Hardware Return Form along with the equipment in its original packaging to our Service Centre address below:

> **Attention: Hardware Repairs**
>
> Quest Payment Systems Pty Ltd
> 227 Burwood Road
> Hawthorn Victoria 3122
> A U S T R A L I A

Note: Any equipment received by Quest without a completed form may take longer to process, and cause unnecessary delay in returning the equipment to you.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and receiver,
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected,
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Any changes or modifications not expressly approved by Quest Payment Systems could void the user's authority to operate this equipment.

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.

IC Statement

This device complies with Innovation, Science and Economic Development (ISED) Canada's licence-exempt RSS standards. Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Innovation, Sciences et Developpement economic Canada RSS standard exempts de licence(s). Son utilisation est soumise à Les deux conditions suivantes:

1. cet appareil ne peut pas provoquer d'interférences, et
2. cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Warranty

HARDWARE WARRANTY (QUEST DOC# 510-0147-04)

Quest Payment Systems Pty Ltd (Quest) hardware products are warranted against defects caused by faulty workmanship and materials for twelve (12) months from the date of supply for new products, and ninety (90) days from the date of repair for refurbished or repaired products.

This warranty does not apply to defects caused by the hardware products not being used in accordance with instructions, accidental damage, damage caused by external forces, liquids damage, misuse, security tamper activation, fair wear and tear, or repair or attempted repair by unauthorised persons. All warranties not referred to in this document are excluded.

Subject to Quest's rights under the Australian Consumer Law (which Quest fully reserves), our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

You agree that our hardware products will be of acceptable quality if they remain functional in accordance with their specifications and accompanying documentation for twelve (12) months from the date of supply for new products, and ninety (90) days from the date of repair for refurbished or repaired products.

The liability of Quest for the breach of the consumer guarantees in the Australian Consumer Law and all other liability in relation to our hardware products is limited to, at the option of Quest, the repair or replacement of the hardware product, the supply of an equivalent hardware product or the payment of the costs of replacing or repairing the hardware product.

If you wish to make a claim under the warranty against defects set out above or the consumer guarantees in the Australian Consumer Law, you must return the relevant hardware product to Quest within twelve (12) months from the date of supply for new products, and ninety (90) days from the date of repair for refurbished or repaired products. Freight and insurance charges to and from Quest are your responsibility.

SOFTWARE WARRANTY (QUEST DOC# 510-0147-04)

SOFTWARE LICENCE: Quest Payment Systems Pty Ltd (Quest) grants the licensee a non-exclusive licence to use the Software in this package on one (1) computer node, upon payment of an agreed fee.

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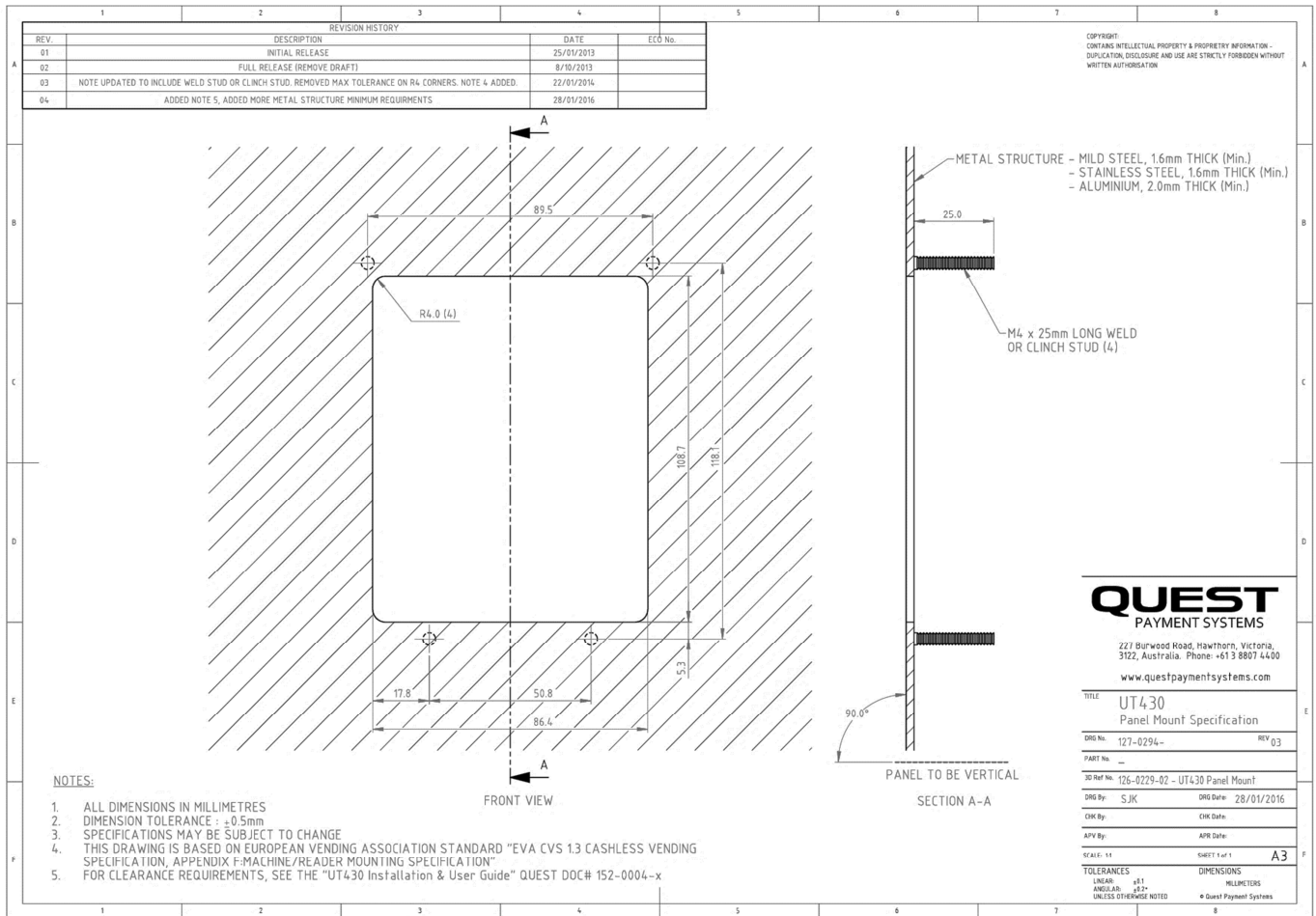APPLICABLE LAWS: The laws of the State of Victoria, Australia govern this licence agreement.

Appendices

APPENDIX A - PANEL MOUNT SPECIFICATION
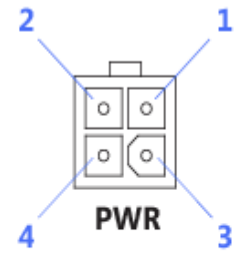
Quest Doc# "127-0294-04 - UT430 Panel Mount Specification"
Available in PDF and DXF file formats
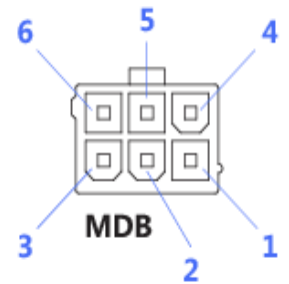
APPENDIX B - CONNECTOR PINOUTS ON UT430

PWR

Pin	Signal	Description
1	NC	Not Connected
2	VS	12V DC Supply Voltage
3	GND	Ground
4	GND	Ground

MDB

Pin	Signal	Description
1	MDB-VS	MDB Supply Voltage
2	GND	Ground
3	WAKEUP	MDB Bidirectional Wakeup
4	MDB-TX	MDB Transmit (Output)
5	MDB-RX	MDB Receive (Input)
6	MDB-GND	MDB Isolated Ground (for MDB-TX and -RX)

CTL RDR

Pin	Signal	Description
1	NC	Not Connected
2	EXCTL-VCC	External Contactless 3.3V Supply Voltage
3	NC	Not Connected
4	EXCTL-TX	External Contactless Transmit (Output)
5	EXCTL-RX	External Contactless Receive (Input)
6	GND	Ground
7	EXCTL-DET	External Contactless Detected (Input)
8	NC	Not Connected

CRD RDR

Pin	Signal	Description
1	NC	Not Connected
2	CR-TX	External Card Reader Transmit (Output)
3	CR-RX	External Card Reader Receive (Input)
4	NC	Not Connected
5	GND	Ground
6	CR-RTS	External Card Reader Request To Send (Output)
7	CR-CTS	External Card Reader Clear To Send (Input)
8	NC	Not Connected

PRN

Pin	Signal	Description
1	NC	Not Connected
2	PRN-TX	External Printer Transmit (Output)
3	PRN-RX	External Printer Receive (Input)
4	NC	Not Connected
5	GND	Ground
6	PRN-RTS	External Printer Request To Send (Output)
7	PRN-CTS	External Printer Clear To Send (Input)
8	NC	Not Connected

POS

Pin	Signal	Description
1	NC	Not Connected
2	POS-TX	POS Transmit (Output)
3	POS-RX	POS Receive (Input)
4	POS-VS	POS 12V Supply Voltage ** Required, if powering via serial port on machine**
5	GND	Ground
6	POS-RTS	POS Request To Send (Output) **Optional**
7	POS-CTS	POS Clear To Send (Input) **Optional**
8	NC	Not Connected

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