Installation and User manual

For

uTrust TS SCRAMBLEPAD
Version 1.6

Confidential

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Document History

Version	Date	Description of Change	Author
1.0	23-Mar-15	Initial version	Suresh Kumar T
1.1	09-Oct-15	Wiegand section added	Suresh Kumar T
1.2	26-Oct-15	Document updated as per inputs from UL	Sudhan Immanuel G
1.3	30-Oct-15	Current ratings for different voltages and wiring configuration for power updated	Sudhan Immanuel G
1.4	18-Nov-15	Document updated to update Ethernet POE cable lengths	Sudhan Immanuel G
1.5	19-Nov-15	Document updated after review comments from UL	Sudhan Immanuel G
1.6	27-Nov-15	Document updated after review comments from UL	Sudhan Immanuel G

uTrust TS Scramblepad

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1.0 Introduction

This document details the Physical Access Control Reader **uTrust TS Scramblepad** and its user instruction and installation procedures.

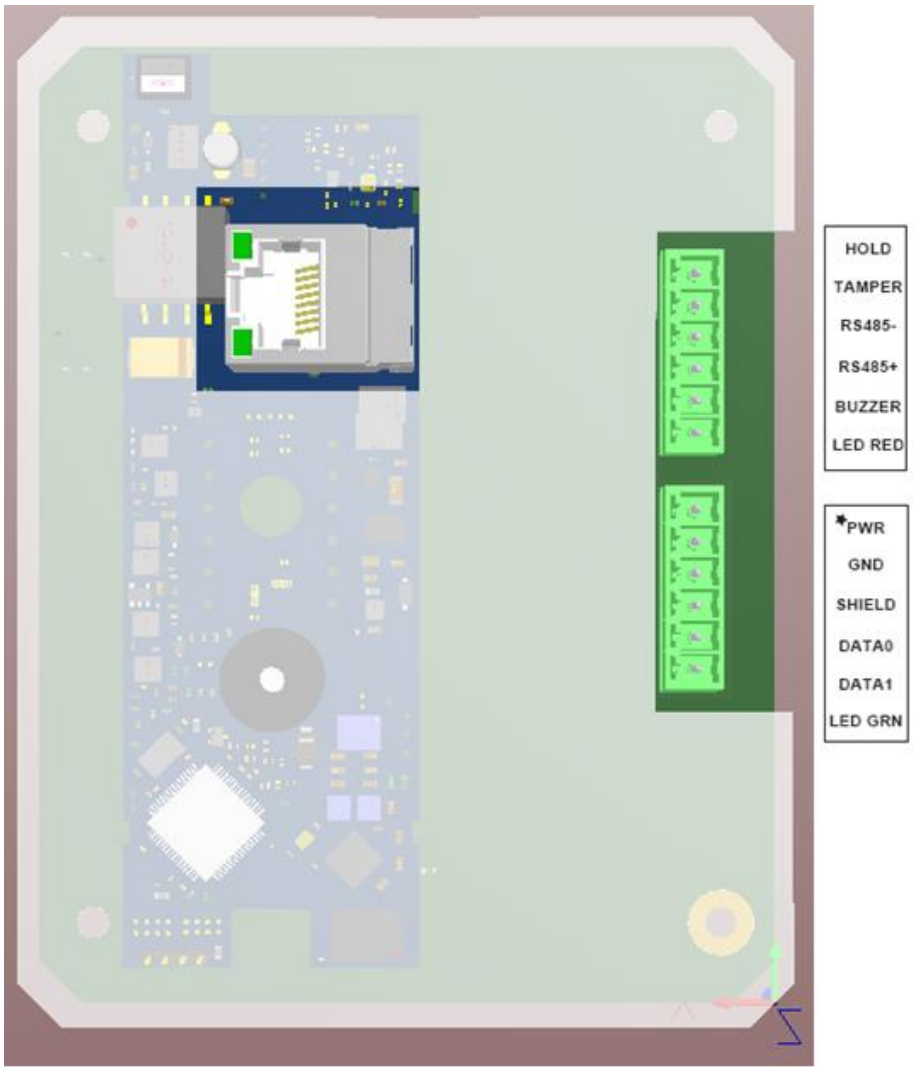
2.0 Reader

2.1 Functionality

TS Scramblepad reader is a physical access control smart card reader that can read HF and LF contactless credentials, conforming to the following standards: ISO 14443 A & B, ISO15693 with a randomly displayed keypad pin entry for additional security. The reader can interface with an access control system equipped with a Wiegand or RS485 serial interface

2.2 Front/Top Casing

2.3 Rear view with back plate



**There shall be no connections made to the RS-485 interface (RS485+ and RS485-) for UL installations*

3.0 Product details

Product Name	: uTrust TS Scramblepad
Model Name	: 8235
Device Type	: RFID reader, 13.56MHz (HF) / 125 KHz (LF), keypad Physical Access control Reader (accessory equipment)
Type of equipment	: Suitable for Indoor use
Interface Type	: Phoenix connectors and RJ45
Voltage Rating	: 7-16V DC (or) 55V DC on RJ45 Connector (POE)
Current Rating @12V	: Peak Current – 425 mA, Average Current 355 mA

Current rating via POE : Maximum current - 80mA

Communication protocol : Wiegand, RS485 (2wire - Half Duplex), 10BaseT ETH

4.0 Specifications

Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), local codes, and the authorities having jurisdiction.

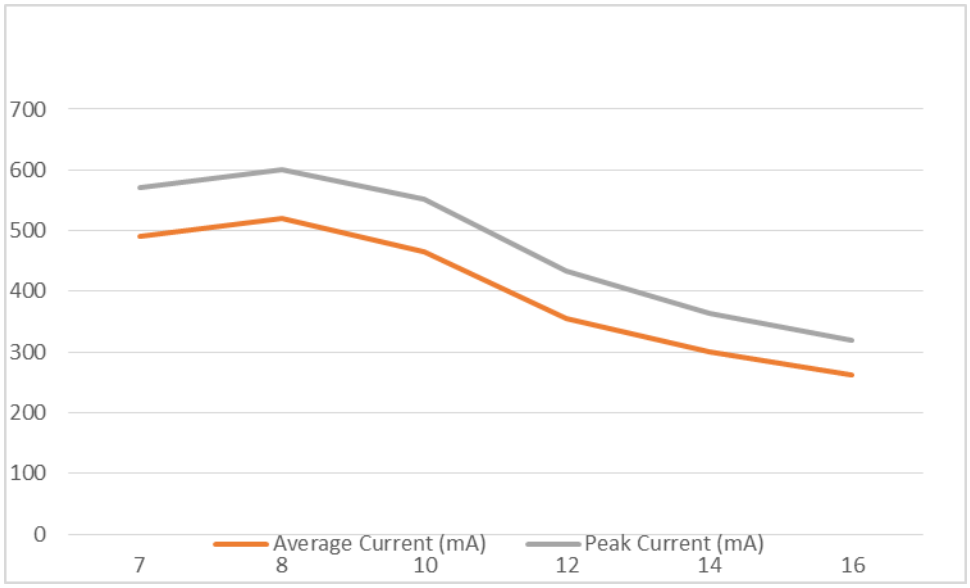
Model	Operating Voltage	Current	Operating temp	Operating humidity
8235	7-16 VDC	Av -355 mA @ 12V Pk -425 mA @ 12V	0 to +49C	85 +/-5 % RH
	POE@ 55VDC	Max. – 80mA		

- Class 2 power supply with 7 – 16VDC to be used to power the reader
- POE sourcing equipment shall be UL Listed (Altronix Model Netway8)
- When the readers use POE as a power source, the power input wiring from the control unit (i.e. Red and Black for 8235) shall be disconnected
- The maximum length of the Ethernet cable when using POE as the power source in UL installations is limited to 30 meters (98.5 feet)
- There shall be no connections made to the RS-485 interface (RS485+ and RS485-) for UL installations

4.1 Rated current at different operating voltages

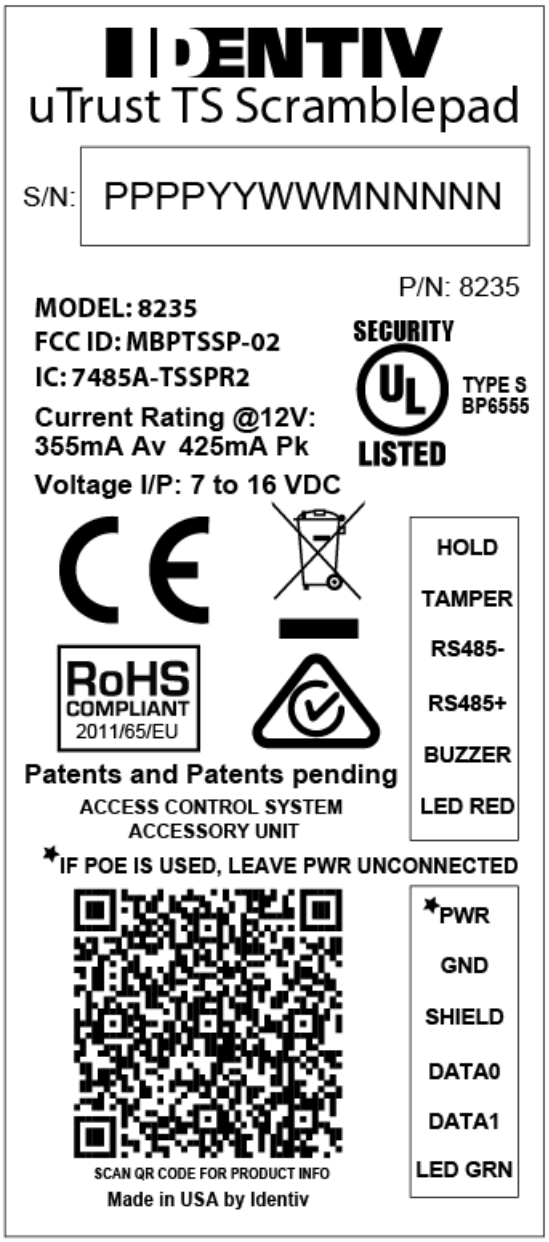
Voltage (V)	Average Current (mA)	Peak Current (mA)
7	490	570
8	520	600
10	465	553
12	355	433
14	301	364
16	262	320

uTrust TS Scramblepad



5.0 Label

uTrust TS Scramblepad



- **SHIELD – should be connected to the cable shield.**

Caution:
During Wiring make sure that the +VDC lines does not make contact with any other cables, as it might affect reader functionality/ cause damage to the reader.

6.0 Power up and Testing

1 **Turn power on**
The LED blinks 3 times green with a long beep, then turns red

2 **Present a card**
The LED blinks green, and a short Beep is emitted

3 **Press Start Key**
Scrambling display with buzzer tone & displays scrambled key

4 **RJ45 Ethernet cable**
Reader can be powered from POE. Communication happens through Ethernet also.

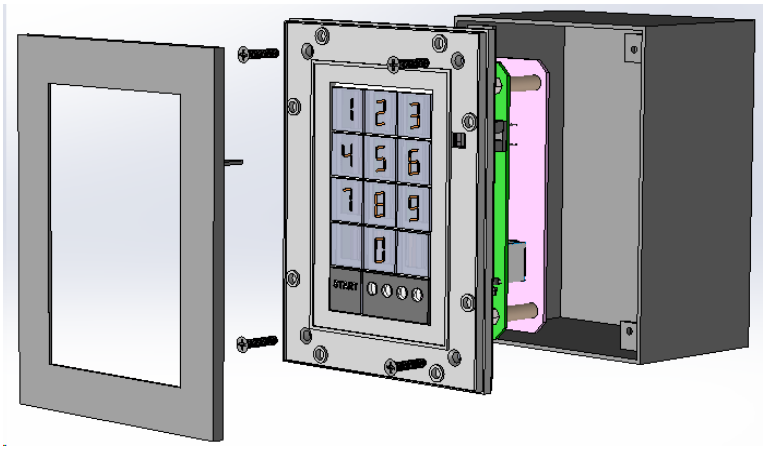
5 **Wiegand / RS485**
Communication to the Panel is done through Wiegand / RS485 / OSDP. There shall be no connections made to the RS-485 interface (RS485+ and RS485-) for UL installations

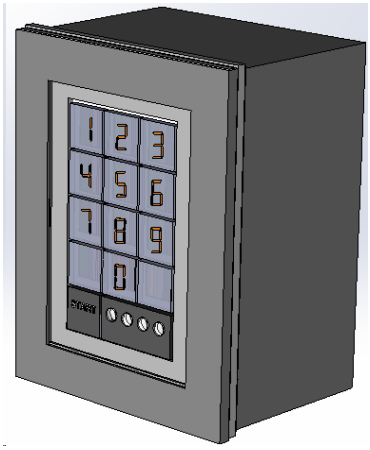
This is the default reader behavior.

7.0 Installation

All cabling and wiring shall be UL Listed and/or UL Recognized.

- Install the respective mounting box in to the wall
- Take the cable from the backside of the reader as per the pin outs in the label drawing
- Fix the four screws at the corner into the mounting box
- Fix the bezel on the top of the casing





8.0 Certifications

8.1 FCC

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

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.

Information to user

Changes or modifications not expressly approved by ***Identiv*** *could* void the user's authority to operate the equipment.

8.2 IC

This device complies with Industry Canada license-exempt RSS standard(s).
Operation is subject to the following two conditions:
(1) This device may not cause interference
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

8.3 UL 294

- Communication via Wiegand was evaluated by UL and serves as the interface between the reader and panel
- Communication via RS485 or Ethernet was not evaluated by UL
- Communication via RS485 is not permitted
- The maximum length of the Ethernet cable when using POE as the power source in UL installations is limited to 30 meters (98.5 feet)

8.3.1 Access control performance levels

Destructive attack	: Level IV
Line Security	: Level I
Endurance	: Level I
Standby Power	: Level I