



## **USER MANUAL**

# **uSign™ Signature Capture Module**

**Model uSign 300**



**80109504-001  
02-28-2012**

## **uSign 300 User Manual**

### **FCC WARNING STATEMENT**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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.

### **FCC COMPLIANCE STATEMENT**

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following conditions: this device may not cause harmful interference and this device must accept any interference received, including interference that may cause undesired operation.

### **CANADIAN DOC STATEMENT**

This digital apparatus does not exceed the Class B limits for radio noise for 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 B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

### **CE STANDARDS**

An independent laboratory performed testing for compliance to CE requirements. The unit under test was found compliant to Class B.

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### Revision History

<b>Revision</b>	<b>Date</b>	<b>Description of Changes</b>	<b>By</b>
A	02/28/2012	Initial release	JW

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## 1.0 Introduction

The use of electronically captured signatures has become common for Point of Service (POS) applications. Electronic signature capture reduces transaction time, eliminates sorting & sending paper, provides convenient electronic storage & transmission, and gives legal accountability (non-repudiation) for POS transactions.

uSign™ is an electronic signature capture device with a back lighted graphic LCD display and touch sensitive screen that is the signature panel. Authors can view their signatures in real time during the signing process. Signatures are compressed and provided to a Host system for signature & data storage. The LCD display allows for interactive text, which supports pen-tap commands and function selections. The interactive Host operations allow selections and navigations through transactions with just the stylus.

The LCD & touch sensitive screen are surrounded in a plastic housing. The housing provides a tethered non-electronic stylus. The stylus is fastened to the housing in a way to allow stylus replacement. A mounting plate secures the uSign housing to a counter top or other mounting surface. An overlay covers and protects the signature area of the uSign display. The overlay is removable allowing replacement if the signature area becomes worn from stylus use. Customer specific front overlay designs are possible as needed by an application.

The signature pad enclosed in a stylish housing. This uSign is a POS System level product intended for signature capture at a transaction counter. A convenient palm rest area below the signature panel provides support during the signing process.

## 2.0 Features

- Electronic signature capture w Buffered signature capability
- Sampling rate up to 190 dots per second
- Real time signature capture with 5:1 compression
- Raw data output available
- Algorithms to filter spikes, provide Smoothing, & Calibration algorithms
- Command & response driven operations through an API
- Graphic display of signature during capture
- Display graphics under Host control when not in signature process
- Touch pad dot position matches LCD pixel locations
- Operates with Windows XP, Vista and Windows 7 operating systems
- Replaceable non-active tethered stylus
- Resistive touch pad
- RoHS compliant

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### 3.0 Model Designations

uSign 300                    IDUB-01x500

The “x” defines the communication interface, 2 = RS232 and 6 = USB

### 4.0 Terms & Abbreviations

COM	Host communication port
HID	Human Interface Device
Host	Personal Computer, Terminal, or similar device
LCD	Liquid Crystal Display
LED	Light Emitting Diode
mA	Milli-Amperes of electrical current
RS232	Serial communications
USB	Universal Serial Bus, serial communications
VDC	Volts Direct Current

### 5.0 Installing uSign

uSign is designed for an indoor environment. Locate the uSign where it is convenient to operate and protected from heat or direct sunlight. Position the uSign so the signature pad area is easy to reach and the immediate area is clear for authoring the signature. The uSign housing has threaded inserts in the bottom and relief areas for hook & loop fasteners. A metal mounting bracket with keyhole & screw mounting is mounted to the back of the housing.

The uSign 300 with an RS232 interface uses a standard DE9 connector and uses a 5VDC power adaptor. The input voltage on the power adaptors may be limited; do not exceed the input voltage rating of the power adaptor. Connect the power adaptor after the other connections are made.

The uSign having a USB communication interface receives power from the host through the USB port.

For both interface types and when power is applied, the green & red LED on the uSign are on for a moment, go off, and then the green is on and flashing. If the LED does not light, check the connections and the availability of power from the power outlet. With the green LED flashing, the LCD screen displays: “IDTECH uSign, Version x.xx.” When the signature screen is touched or commands are received from a Host, the LED is turned off and the screen is cleared for Host operations. The Green LED is controlled and is on when uSign is in the capture mode; the red LED is host controlled.

The communication type can be RS232 or USB-HID. See the Communication Interface section below that corresponds with the interface of your uSign unit. A Technical Reference manual for the native uSign protocol is available from the factory.

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### 5.1 RS232 Communication Interface

The uSign has a communication cable with a DB25 (100 Model) or DB-9 (200 Model) connector that fits the computer serial (RS232) COM port connection. See the Specifications, Interface Section for COM port settings.

Connect the RS232 connector to the PC and insure it is fully seated into the connector. Connect the power adaptor output to the power input socket on the back of the DB connector shell. Connect the power adaptor to the AC line power outlet.

### 5.2 USB Communication Interface

The USB interface is a HID Class. The USB communication uses the Windows OS installed HID driver. uSign receives power form the Host USB connection.

Connect the USB connector to the PC and insure it is fully seated into the jack. If the LEDs do not light, check the connections and the availability of power from the Host.

## 6.0 Specifications

### 6.1 Power requirement

Voltage	5VDC
Current	150mA typical
RS232 Power	AC adapter, center positive adaptor plug output
USB Power	Host USB port

### 6.2 Physical housing uSign 300

Overall size	129mm wide (5.1 in) 146mm length (5.75 in) 40mm thick including back plate (1.57 in)
Display	3.5-inch diagonal signature area

### 6.3 LCD screen & Resistive touch pad

Touchpad	Resistive, transparent, pressure-sensitive screen
Sampling Rate	Up to 118 samples per second
Touchpad Resolution	Up to 1024 dpi
Display Resolution	LCD Resolution: 320 x 240 dots



## **6.4 Communication interface**

### **RS232**

Baud rates                            1200 to 115200  
Default                                9600 baud, data bits – 8, Parity – none, Stop bit – 1

### **USB**

2.0 Full Speed (HID)

## **6.5 LED**

Two individual LEDs (green & red)  
Signature Pad or Host controlled

## **6.6 Agency Approvals**

FCC Class B, & CE,  
The product is RoHS compliant.

## **6.7 Electronics MTBF**

Electronics MTBF                    200,000 POH, based on Bellcore standard.

## **6.8 Electro-Static Discharges (ESD)**

The electronics survive ESD of 4kV contact, and 8kV air discharge. Meets or exceeds IEC 1000-4-2.

## **6.9 Environmental**

Temperature ranges

    Operating                            1 to 45 C        (34 to 113 F)

    Storage (sealed container)    -10 to 70 C    (14 to 158 F)

Relative humidity

    10% to 95% non-condensing

**7.0 Outline Drawing**

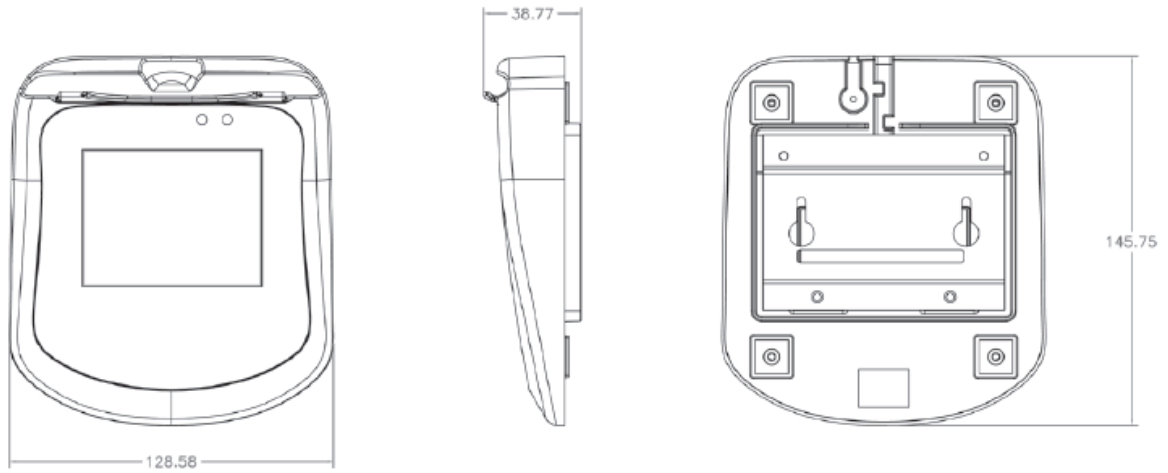


Figure 1 Outline Drawing for uSign 300