User Manual

Access Touch 3.1

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>30.09.2011</td>
<td>Pah</td>
<td>First version</td>
</tr>
<tr>
<td>1.01</td>
<td>20.08.2012</td>
<td>Hal</td>
<td>Shutdown instructions added</td>
</tr>
</tbody>
</table>
1. Purpose of this user manual

The purpose of this manual is to guide you in installing Access Touch 3.1 screen terminal. After having completed the installation you can start creating your own customer specific applications with this multi-use device.

2. Description of Access Touch 3.1

Access Touch 3.1 is a touch screen terminal that:

- Enables you to manage a wireless identification system
- Can also be used as an independent control unit

Access Touch 3.1 consists of an integrated computer module and an RFID reader. It can be used for management of a wireless system or as an independent unit, for e.g. time and attendance, payment applications, alarm control or as an info screen, etc. Access Touch 3.1 operates on the Linux operating system, however Windows XP Pro is also optional. Access Touch 3.1 includes a fully operating integrated computer on module with good performance offering a variety of options for different types of customised solutions. Access Touch 3.1 also has an integrated RFID reader unit, available with a variety of technologies in 125 kHz and 13.56 MHz frequencies. The device can manage wireless access control readers and wireless UHF readers, also offered by Idesco. The front panel is fully customisable to your needs. The device consists primarily of a screen module with embedded electronics and a back plate for installation.

3. Package content

- a fully integrated computer deploying Idesco Embedded Linux operating system or with Windows XP Pro operating system
- an RFID reader unit with one of the following modules:
  1. Access 7 C, supporting the following technologies (for UID reading): Philips Mifare®, I-Code®, Inside PicoTag® and PicoPass®, HID iClass®, LEGIC Advant® and most of the existing and forthcoming ISO15693 tags like Tag-it®, ST, Fujitsu, Infineon etc.
  2. Access 8 CM t, supporting Mifare® technology with multi-application options
  3. Access 8 CD, supporting Mifare® DESfire multi-application options
  4. IR 6090B, supporting Idesco Microlog technology with read/write functions
  5. Other RFID reader modules available optionally
- Other optional equipment depending on specific order requirements:
  1. WLAN USB module
  2. Idesco Cardea USB-stick (for wireless communication).
  3. Additional SSD memory
  4. NOTE! Two additional USB ports available with default HW-configuration

4. Notes

- Handle the unit, especially the front cover, with care.
- Handle the electronics with care to avoid any electrostatic discharges
- Use a soft towel when cleaning the front panel
- It is strongly recommended to deploy a power back up (UPS) in tandem with Access Touch 3.1
5. Installation

NOTE! Power must be turned off from your VDC feeding device when making connections!

5.1. Installation, mechanics

Attach installation plate to wall/desk using three screws. See picture 1. Optionally installation plate can be installed to VESA connector.

![Installation plate attached by three screws.](image)

Install four screws loosely to installation plate to attach later metal back cover to installation plate. See picture 2. Feed all necessary wires through the insert holes in the middle of the back cover.
Install the back cover to the installation plate using four loosely attached screws on installation plate (picture 3).

5.2. Installation, electronics

Connect all necessary wires to the Access Touch 3.1 PCB (e.g. VDC, GND, Relay control...)

Follow diagram in picture 4 below for locating different connector hubs. Each connector’s functions are described separately in the following chapters. **NOTE: It is highly recommended that you deploy an independent power supply as a backup in the event of power interruptions.**
5.2.1. Connector 1
Connector 1 includes the power supply, RS485, and wiegand hubs

5.2.1.1. Power supply
Input voltage: 15...30 VDC

Power requirements / average current consumptions:

850 mA @ 15 VDC
520 mA @ 24 VDC

Choose a power supply that meets the above power requirements.
5.2.1.2. Wiegand hubs A and B
Two wiegand readers can be connected with the wiegand A and wiegand B hubs. Two open collector outputs OUT A and OUT B may be used for controlling wiegand reader inputs (e.g. reader LED control)

Data from wiegand hubs is routed through the Access Touch 3.1 application controller. Consult the separate Access Touch 3.1 Protocol Description for wiegand output / input controls.

Port data is read through the `/dev/ttyS1` port in the Access Touch 3.1 Embedded Linux Operation System.

5.2.1.3. RS485
T+, T-, R+ and R- connectors are used for connecting RS485 readers to the Access Touch 3.1. **Note:** An RS485 application control protocol must be implemented in the Access Touch 3.1 operating system for RS485 readers to be detected by the Access Touch 3.1. For two wire RS485 usage connect T+ and R+ pair and T- and R- pair together.

5.2.2. Connector 2
Connector 2 includes the RS232, speaker, microphone, power switch and I2C connections.

5.2.2.1. RS232_Reader (ATM)
RS232 ATM connection may be used to connect RS232 devices to the Access Touch 3.1. **Note:** By default, any pre-installed Access Touch 3.1 internal reader uses this connection. Therefore you should connect devices to this port only after any internal reader has been disconnected from it.

Data from this RS232 connection routes through the Access Touch 3.1 application controller. Consult the separate Access Touch 3.1 Protocol Description for RS232 ATM device output.

Corresponding data routes through the `/dev/ttyS1` port in the Access Touch 3.1 Embedded Linux Operation System.

5.2.2.2. RS232_COM (ETX)
The RS232 ETX connection may be used when connecting a second RS232 device to the Access Touch 3.1. This connection may also be used if the primary RS232 ATM port is unavailable. This hub is connected directly to the ETX- e COM module.

Data from this connection may be routed through the `/dev/ttyS0` port in the Access Touch 3.1 Embedded Linux Operation System.
5.2.2.3. Speaker
A speaker may be attached using the SPKR-R connection. By default any built-in speaker also connects to this hub.

5.2.2.4. Microphone
Microphones can be connected via the MIC connection.

5.2.2.5. Power switch
Access Touch 3.1 may be used in manual power on / off mode. In this mode Access Touch 3.1 is powered up by pressing the power button. Access Touch 3.1 can also be powered down by pressing the power button.

The Manual / automatic power mode is selected using Access Touch 3.1 DIP switches. Please contact Idesco for DIP settings.

5.2.2.6. I2C
Optional I2C interface may be used to connect external I2C devices to Access Touch 3.1. **Note: I2C devices require separate control software.**

5.2.3. Connector 3
Connector 3 includes OUT_D relay connections. GND and +12 VDC may be used as an external power source.

5.2.3.1. OUT_D relay control
OUT_D connections may be used to drive Access Touch relays. By default this connection is open and when an output command is sent to the application controller a relay can subsequently be controlled. See Access Touch 3.1 Protocol Description for relay control commands.

5.2.4. Connector 4
Connector 3 includes OUT_C relay connections.

5.2.4.1. OUT C relay control
OUT_C connections may be used to drive Access Touch relays.

OUT C relay functions:

RELA and RELB: default closed
REL A and REL C: default open

REL D and REL E: default closed

See separate Access Touch 3.1 Protocol Description for output control command

5.2.5. Connector 5
Connector 5 includes two general purpose inputs. GND and +12 VDC may be connected to an external power source.

By default these two inputs are in “high” state. Their state reverts to “low” upon being grounded.

Consult the separate Access Touch 3.1 Protocol Description for more information about these input controls.

5.2.6. Ethernet Connection
Access Touch 3.1 possesses one Ethernet connection. This device supports the 10 / 100 Mbit Ethernet protocol.

Consult picture 4 to locate the Ethernet connection.

5.2.7. USB Ports
Access Touch 3.1 has two USB ports for external USB device connections. The available USB ports are located in the USB1 connector. USB2 is reserved for connecting a touch sensor. USB3 is not available.

See picture 4 in chapter 5.2 for USB connection locations.
5.2.8. Reset button

Access Touch 3.1 has one reset button that can be used to shutdown the device without any shutdown procedures. Reset button can be used to force a shutdown.

![Reset button](image)

5.3. Mounting

After all connections have been completed, mount the front cover with the assembly plate to the back cover and lock it in place with four nuts in the corners (picture 11).
5.4. Booting

After all mechanical and electronic installations have been completed switch the power supply on. The computer will automatically initiate its boot routine.

Note that the power-up routine may differ depending upon whatever features may have been configured in the device. The device will initiate booting of the installed operating system if no such configurations have been made.

After the power-up routine completes your Access Touch 3.1 is ready for use.

6. System shutdown

Do not suddenly remove power from the device!

On Linux device use shell command “halt.” After halt procedure is finished (screen is black and device is not drawing any current) you can unplug your power source from the device.

On Windows device select shutdown from Start menu.
7. Dimensions

7.1. Front panel

![Front panel measures in millimetres](image)

*Picture 12: Front panel measures in millimetres*

7.2. Side measures

![Side measures in millimetres](image)

*Picture 13: Side measures in millimetres*
### 8. Technical data

<table>
<thead>
<tr>
<th>Operating frequency for RFID / Wireless</th>
<th>RFID 125 KHz and 13.56 MHz. Wireless communication 2.4 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>15 ... 30 VDC. Internal back-up capacitors for safe power down</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® Atom™ Z510 1.1 GHz. <strong>Note:</strong> Access Touch 3.1 COM module is alterable to fit customer requirements. Contact Idesco Oy if you need default module to be changed.</td>
</tr>
<tr>
<td>Current consumption</td>
<td>520 mA @ 24 VDC (when display on)</td>
</tr>
<tr>
<td>Memory</td>
<td>1GB internal flash memory for Linux OS 512 MB DDR2 on the module Separate SSD memory can be used for Windows XP Pro OS installation. SSD must be ordered separately, not provided by default</td>
</tr>
<tr>
<td>Display and Touch Panel</td>
<td>8.4” display and capacitive touch panel</td>
</tr>
<tr>
<td>Dimensions of housing</td>
<td>330 x 200 x 100 mm</td>
</tr>
<tr>
<td>Material of housing</td>
<td>Metal, front plate of glass</td>
</tr>
<tr>
<td>Installation method</td>
<td>Screws with separate back plate or with VESA connector</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP20</td>
</tr>
<tr>
<td>Operational temperature range</td>
<td>-0 ... +50 °C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>-10 ... +50 °C</td>
</tr>
<tr>
<td>Interfaces</td>
<td>3 x USB 2.0 (when default COM-e module is used), 2 x RS232 reader inputs, 2x Wiegand reader inputs, Ethernet (10/100 Mbit LAN) and RS485.</td>
</tr>
<tr>
<td>Inputs</td>
<td>2 general purpose inputs</td>
</tr>
<tr>
<td>Outputs</td>
<td>Two software controlled outputs (open collector) Two software controlled relays</td>
</tr>
<tr>
<td>EMC</td>
<td>Emitted interference: EN 61000-6-4: 2001 Interference resistant: EN 61000-6-2: 2001</td>
</tr>
<tr>
<td>LED (for the RFID reader)</td>
<td>Red / Yellow LED.</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10 / 100 Mbit LAN</td>
</tr>
<tr>
<td>Wireless communication</td>
<td>Optional WLAN or Idesco Cardea (IEEE 802.15.4)</td>
</tr>
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