



CAMLOCK
SYSTEMS

ACS-200
SMART INTEGRATION HUB
QUICK START GUIDE

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SMARTER
LOCKING

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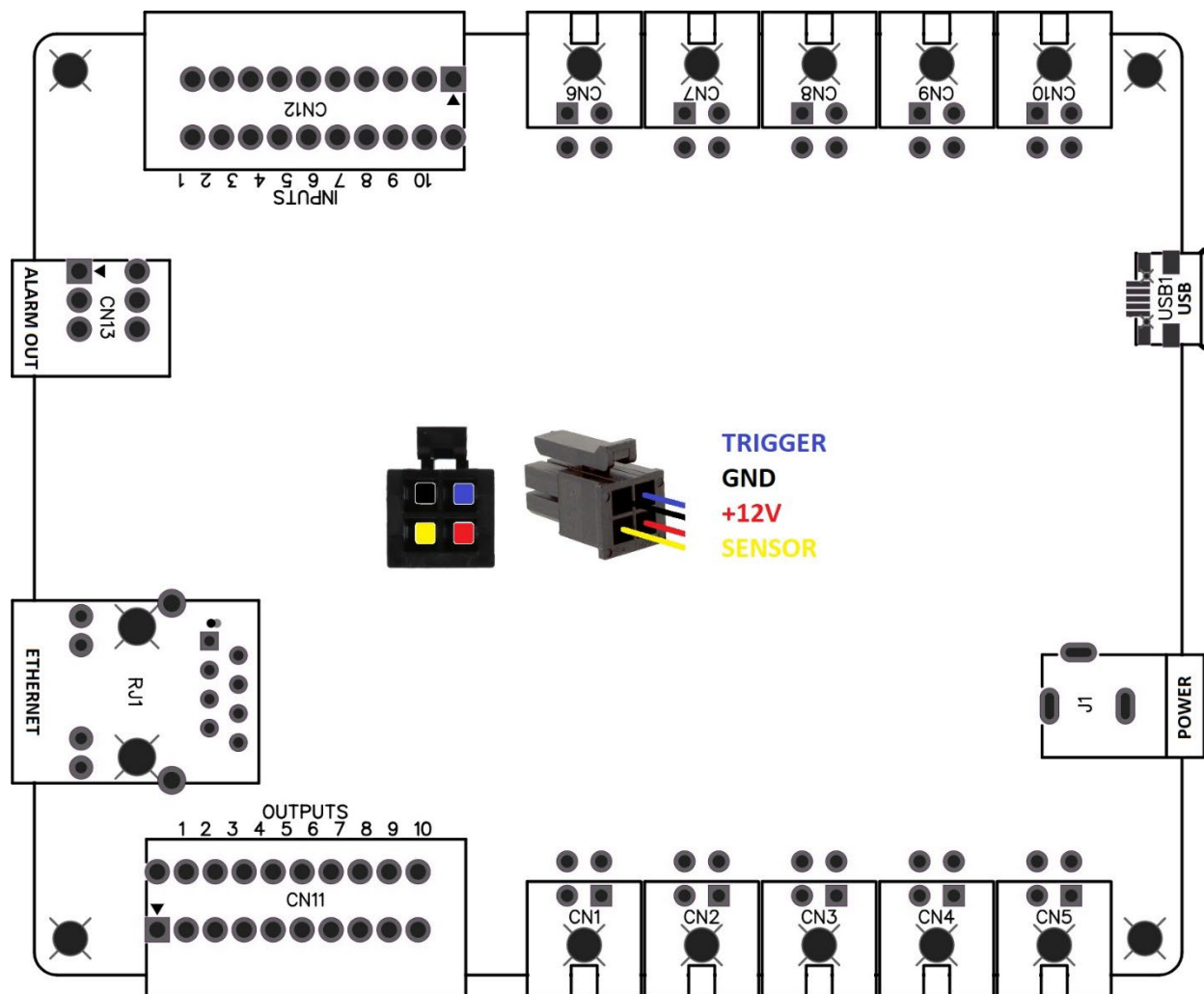
1 Getting Started

1.1 Connections and Wiring

Connect the required number of **locks** to the ACS-200. Note that only **3-Wired, 12 Volt Rated, Negatively Triggered** Electronic Locks manufactured by **Camlock Systems** are currently **compatible** with the ACS-200.

The **connector, pinout** and **wiring** diagram is given below. Take extra care with the wire **colours** and **positions**, as wrong wiring can **damage** the locks. Make sure that all the locks are in the **closed** position before powering up the system, otherwise they will be **disabled**.

For **Serial** communication, connect the ACS-200 to a computer using a **Micro USB** to **USB** cable. For Ethernet communication, connect the hub to a network switch or router using a **Cat5** or **Cat6 RJ45** network cable and then connect the computer to the same network switch or router. Finally, connect a standard # power supply to the power port.



2 Communicating with the ACS-200

2.1 Serial Communication

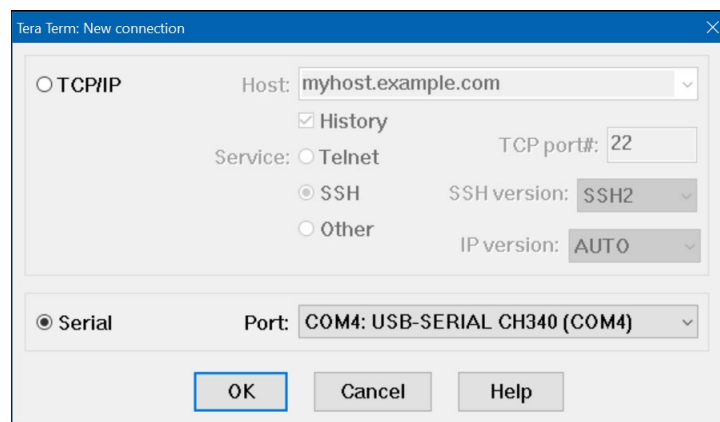
2.1.1 Serial Terminal Software

A serial terminal software such as Tera Term, Real Term, Hyper Terminal, Putty etc is required to test the communication with the ACS-200.

Download, install and run such a program of your choice. Tera Term is used here in this document for the purposes of providing examples. All other serial terminal software will have either same or similar settings and options.

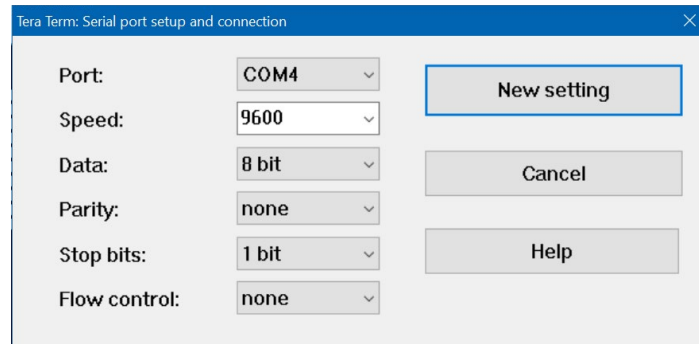
2.2 Connecting to the Unit

Run the serial terminal software, create a new serial connection by selecting Serial as the connection type and then selecting the COM port the ACS-200 is connected to. All available COM ports will appear in the list of ports as COMx, x being the port number (COM4 in the example below). The ACS-200 will appear on the list of devices as USB-SERIAL CH340.



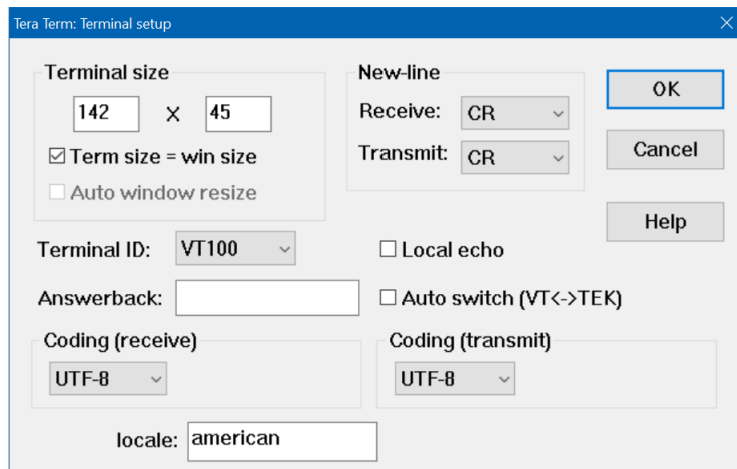
2.2.1 Serial Port Settings

Required settings for the serial port connection are:	Speed/Baud Rate	9600	bps
	Data Bits	8	bit
	Parity Bits	None	
	Stop Bits	1	bit
	Flow Control	None	



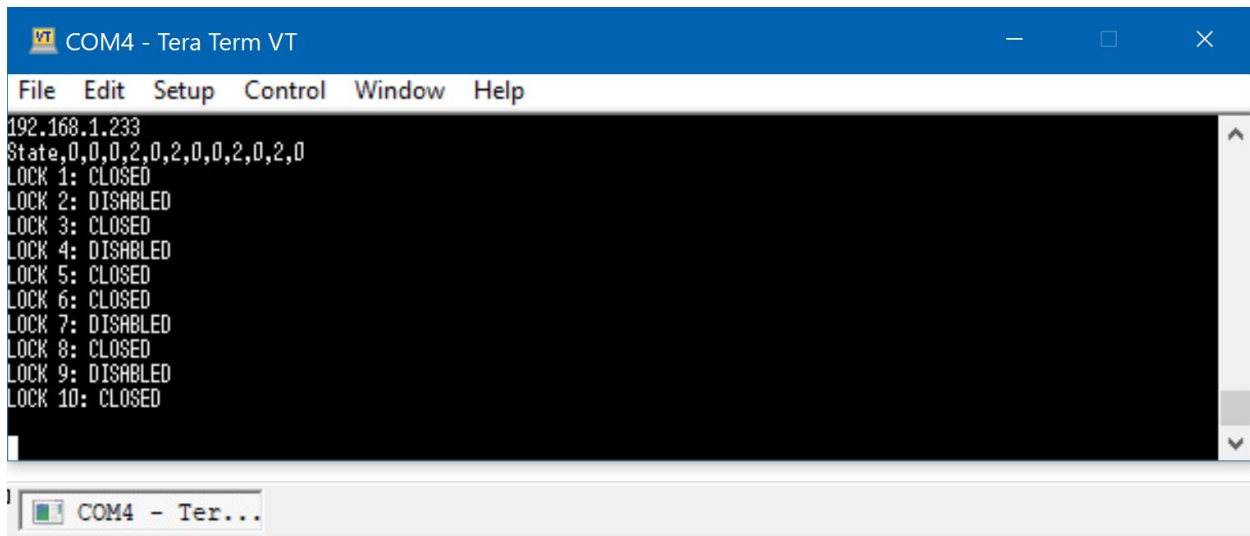
2.2.2 Terminal Window Settings

In the **general** or **terminal window** settings, ensure that **new line termination** setting is set to **CR only** for both receiving and transmitting.



2.2.3 Initialisation

Once everything is connected and setup correctly, the ACS-200 will initialise and report the **status** of the system including settings and states of all the ports as shown below. Please note that all unconnected ports as well as locks left in the open position during bootup will be disabled.



2.2.4 Sending Commands

To **send** commands, just type in the required command from the list in the following section into the **serial terminal window**. The **Enter Key** may or may not need to be **pressed** depending on the software used. If using **Tera Term**, you can also use the **Broadcast Command** function under the **Control Menu**. Just make sure to uncheck (or **disable**) all the options, which are '*Realtime Mode*', '*History*' and '*Enter key*', and only check (or **enable**) the '*Send to this process only*' option. Similar feature may or may not be available in other serial terminal software.

2.3 Ethernet Communication

2.3.1 Ethernet Communication Software

A packet sending and receiving software such as *'UDP – Sender/Receiver'* or *'Packet Sender'* is required to test the **UDP over IP (UDP/IP)** communication between the ACS-200 and the computer. To test the **TCP over IP (TCP/IP)** communication, just a standard web browser such as Chrome, Edge, Safari, Opera etc will suffice.

2.3.2 Preparing the Network

To prepare your network for the installation of the ACS-200, a static and dedicated IP address will need to be assigned to each individual ACS-200 connecting to the network, as well as to the computer that will be used to control them.

A **unique** Port number for the **UDP/IP communication** between the ACS-200 and the computer will also need to be assigned to the system. It is **imperative** that these IP addresses and Port number are **unique** on the network without any **clashes**, otherwise the communication will be **hampered**, and devices rendered **unusable**. These should also be clearly recorded for future reference.

2.3.3 Configuring and Connecting the Units

Once the **IP addresses** and **Port number** have been assigned to **all** the ACS-200 units, they will need to be configured with their **individual** IP address, the IP address of the **controlling** computer and the UDP Port number for the system.

For initial configuration, each ACS-200 unit will have to be connected in turn to a computer using a serial connection by following the instructions in the previous section.

The following **commands** will be required for implementing this on **each** ACS-200 unit connecting to the network:

Action	Command Parameter	Parameter example
Set ACS-200 (local) IP Address	local_ip,xxx.xxx.xxx.xxx	192.168.1.250
Set Controller (remote) IP Address	remote_ip,xxx.xxx.xxx.xxx	192.168.1.150
Set UDP Port Number	port,xxxx	2222

The following commands can be used to check that the configuration has been successful:

Action	Command
Get ACS-200 (local) IP Address	local_ip
Get Controller (remote) IP Address	remote_ip
Get UDP Port Number	port
Get all the information for the unit	settings

When the units have been successfully configured, they will need to **reboot**. This can be done either by cycling the power to the unit or by using the **command** *'reset'*. Once all the

units have been **configured and rebooted**, they can now be installed in their respective **locations**, connected to the **network**, their corresponding locks and then finally to **power**.

2.3.4 Communicating with the Units

For UDP communication, enter the destination IP address of the desired ACS-200 unit and the UDP Port number in the settings of the UDP Packet Software. Then send a command from the list in the following section to check if you get a response back from the ACS-200 unit.

For **TCP communication**, just enter the **IP address** of the unit you want to communicate with in the browser address bar to check if it displays its webpage.

3 Functions, Commands and Errors

3.1 Functions List

Function	Description
unlock	Opens a lock or closes it when hold feature is on and the lock is already open
interlock	Interlocking allows only one lock to be opened at any given time
hold	Hold feature holds open the lock after opening, until a second pulse is received
state	Retrieves the status, either of the whole system or an individual lock
detect	Detects all the locks (only the closed ones) that are connected to the system
open_alarm	Door Open Alarm - raised when a door has been left open for a period of time
intrusion_alarm	Intrusion Alarm - raised when a lock has been opened without authorisation
open_duration	Door Open Duration – Duration after which Door Open Alarm will be triggered
relock_duration	Lock Relock Duration – Duration after which an open lock will relock itself

3.2 Commands List

Command	Parameter (x)	Action
unlock,x	<i>1 to 10</i> <i>all</i>	Opens lock connected to the corresponding port number Opens all locks connected to the system sequentially
interlock,x	<i>0 or 1</i>	Turns Interlocking either on (1) or off (0)
hold,x	<i>0 or 1</i>	Turns Hold Feature either on (1) or off (0)
open_alarm,x	<i>0 or 1</i>	Turns Door Open Alarm either on (1) or off (0)
intrusion_alarm,x	<i>0 or 1</i>	Turns Intrusion Alarm either on (1) or off (0)
open_duration	<i>none</i>	Displays the current Door Open Duration in seconds
open_duration,x	<i>5 to 300</i>	Sets the Door Open Duration for the system in seconds
relock_duration	<i>none</i>	Displays the current Lock Relock Duration in seconds
relock_duration,x	<i>0 to 60</i>	Sets the Lock Relock Duration for the system in seconds
mac	<i>none</i>	Displays the current MAC Address of the device
mac,x:x:x:x:x	<i>00 to FF</i>	Sets the MAC Address of the device
local_ip	<i>none</i>	Displays the current IP Address of the device
local_ip,x.x.x.x	<i>0 to 255</i>	Sets the local IP Address of the device
remote_ip	<i>none</i>	Displays the current IP Address of the controlling device
remote_ip,x.x.x.x	<i>0 to 255</i>	Sets the IP Address of the remote controlling device
port	<i>none</i>	Displays the current UDP Port Number for the system
port,x	<i>0 to 65535</i>	Sets the Port Number for UDP Communication
settings	<i>none</i>	Displays all the current device settings
state	<i>none</i>	Displays the status of the whole system
state,x	<i>1 to 10</i>	Displays the status of the corresponding lock
detect	<i>none</i>	Detects all the closed locks connected to the system
version	<i>none</i>	Displays the installed firmware version
id	<i>none</i>	Displays the serial number of the device
model	<i>none</i>	Displays the model number of the device
info	<i>none</i>	Displays all the information for the device
reset	<i>none</i>	Resets the device

3.3 Error Codes List

Error code	Description
0	Acknowledged (No Error)
1	Invalid Command
2	Invalid Parameter
3	Interlocking On/Lock Open
4	Lock Disabled
5	Door Open Alarm
6	Intrusion Alarm

3.4 State Codes List

State code	Description
0	Off or closed
1	On or open
2	Disabled

3.5 State Report Breakdown

