CAMLOCK SYSTEMS

ACS-200

Quick Start Guide

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CAMLOCK SYSTEMS

Contents

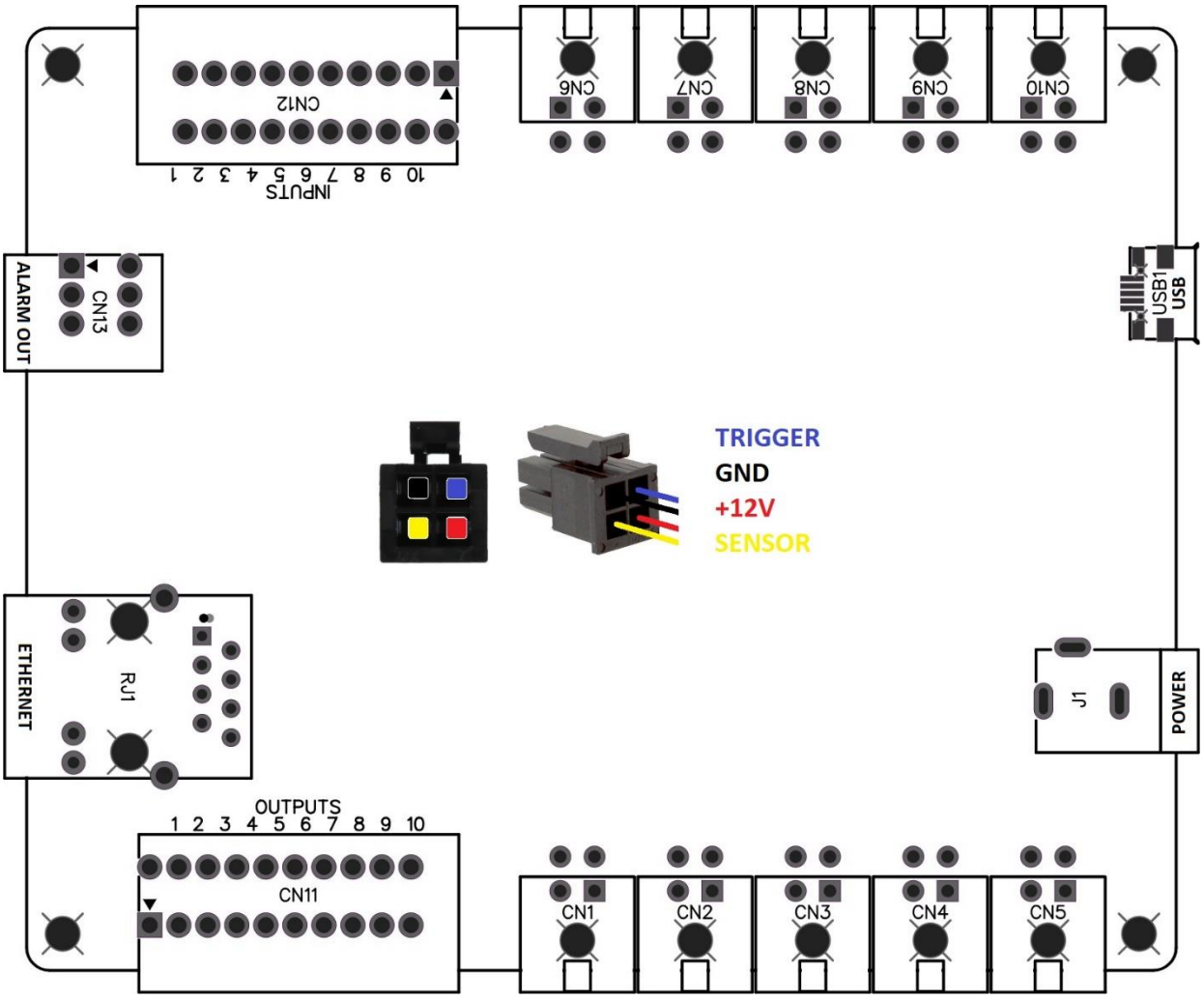
1 Getting Started

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** 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 **12 Volts DC** power supply to the **power port**.



2 Communicating with the ACS-200

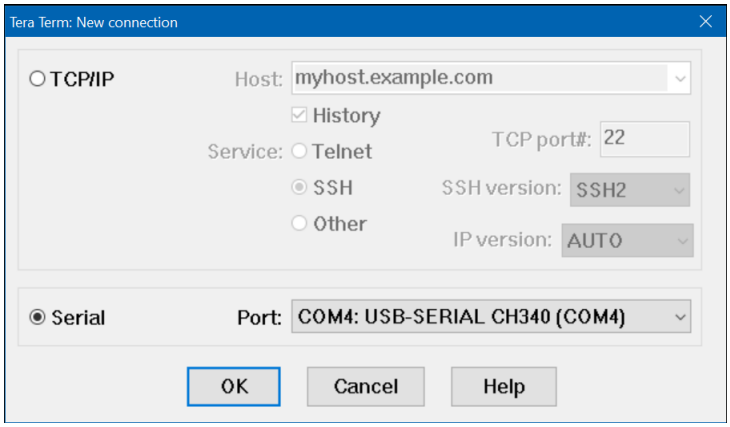
2.1 Serial Communication

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**.

2.1.2 Connecting to the Unit

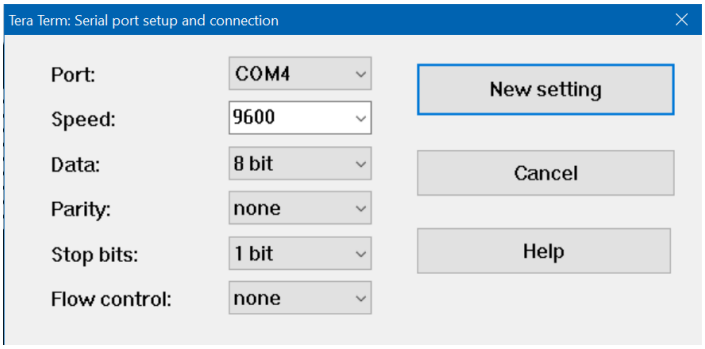
Run the serial terminal software, create a **new** serial connection by selecting **Serial** as the connection **type** and then selecting the **COM port** the ACS-200 is connected to. All **available** COM ports will appear in the **list** of ports as **COMx**, **x** being the **port number** (COM4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



2.1.3 Serial Port Settings

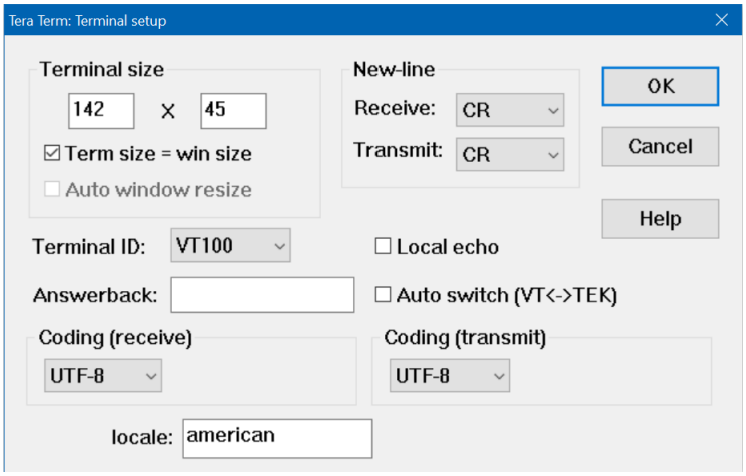
*Required **settings** for the **serial port** connection are:*

Speed/Baud Rate	9600	bps
Data Bits	8	bit
Parity Bits	None	
Stop Bits	1	bit
Flow Control	None	



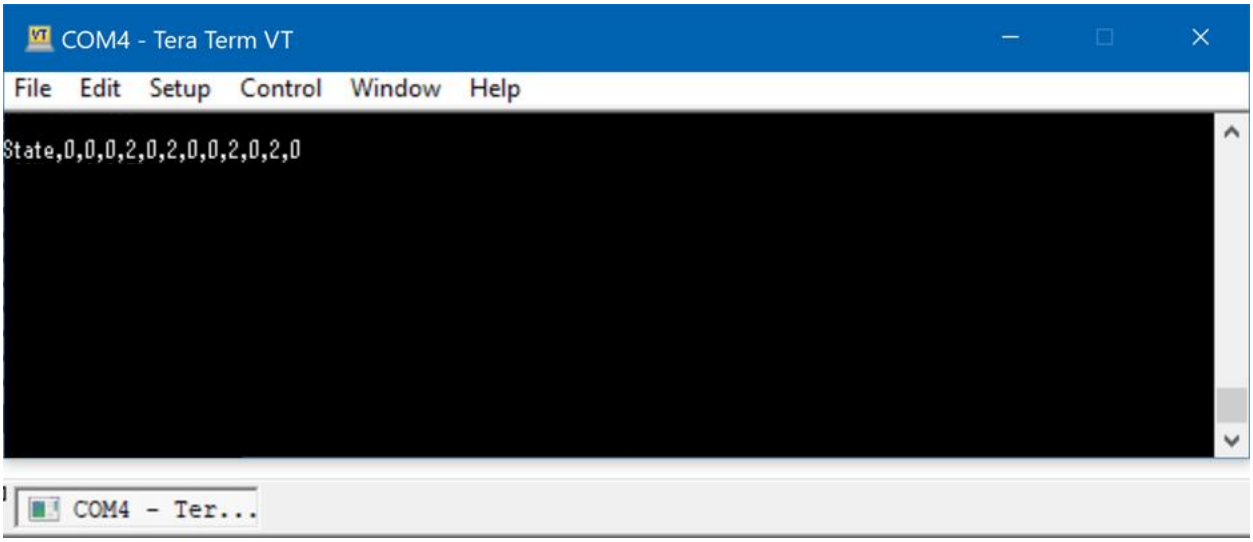
2.1.4 Terminal Window Settings

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



2.1.5 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**.



2.1.6 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**.

2.2 Ethernet Communication

2.2.1 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**.

2.2.2 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**.

2.2.3 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	set_loc_ip,xxx.xxx.xxx.xxx	*192.168.1.250*
Set Controller (remote) IP Address	set_rem_ip,xxx.xxx.xxx.xxx	*192.168.1.150*
Set UDP Port Number	set_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	get_loc_ip
Get Controller (remote) IP Address	get_rem_ip
Get UDP Port Number	get_port
Get all the information for the unit	get_data

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**.

2.2.4 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 when hold feature is on and the lock is already open, closes it
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
get_locks	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	*1 to 10*	Opens lock connected to the corresponding port
	all	Opens all locks connected to the system sequentially
interlock,x	*0 or 1*	Turns Interlocking either on (1) or off (0)
hold,x	*0 or 1*	Turns Hold Feature either on (1) or off (0)
open_alarm,x	*0 or 1*	Turns Door Open Alarm either on (1) or off (0)
intrusion_alarm,x	*0 or 1*	Turns Intrusion Alarm either on (1) or off (0)
get_open_duration	*none*	Displays the current Door Open Duration in seconds
set_open_duration,x	*5 to 300*	Sets the Door Open Duration for the system in seconds
get_relock_duration	*none*	Displays the current Lock Relock Duration in seconds
set_relock_duration,x	*0 to 60*	Sets the Lock Relock Duration for the system in seconds
get_mac	*none*	Displays the current MAC Address of the device
set_mac,x:x:x:x:x:x	*00 to FF*	Sets the MAC Address of the device
get_loc_ip	*none*	Displays the current IP Address of the device
set_loc_ip,x.x.x.x	*0 to 255*	Sets the local IP Address of the device
get_rem_ip	*none*	Displays the current IP Address of the controlling device
set_rem_ip,x.x.x.x	*0 to 255*	Sets the IP Address of the remote controlling device
get_port	*none*	Displays the current UDP Port Number for the system
set_port,x	*0 to 65535*	Sets the Port Number for UDP Communication
get_data	*none*	Displays all the current device settings
get_state	*none*	Displays the status of the whole system
get_state,x	*1 to 10*	Displays the status of the corresponding lock
get_locks	*none*	Detects all the closed locks connected to the system
get_version	*none*	Displays the installed firmware version
get_id	*none*	Displays the serial number of the device
get_model	*none*	Displays the model number of the device
get_info	*none*	Displays all the information for the device
reset	*none*	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