Driver Control4 - Ksenia lares 4.0
Installation and configuration manual

www.kseniasecurity.com

1. Introduction

1.1 Initial notes

For the correct operation of the driver it is recommended to follow step by step this manual.

For a better functioning of the system, it is recommended to install an uninterruptible power supply (UPS), able to supply power to the Control4 controller and to the network devices (routers, switches, ...) even in the absence of mains power supply. The lares 4.0 control panel have back-up batteries and therefore do not require external UPS.

1.2 Requirements

- 2.8.0 Control4 version or next
- Correct Composer version to the Control4 controller
- Ksenia lares 4.0 firmware version 1.22.3 or next
- Driver Ksenia lares4.0

1.3 General information

1. The driver uses websocket connections to communicate with the central lares 4.0. In particular, through the connection named IP_SUPERVISOR the different objects are read (zone names, scenarios, outputs, partitions,...) and their status is kept synchronized (REALTIME). The commands sent by the Control4 interfaces are sent through a USER connection created using the PIN entered by the user himself (which therefore will have the privileges assigned in the configuration of the lares 4.0).

2. Ksenia provides for the configuration of arming/disarming scenarios. The security interface of Control4 uses "partition" logic and does not allow you to customize the number and names of the interface functions. In order to optimize the integration and allow the system integrator to make the best use of the potentials of Ksenia's scenarios, the following calls have been created in the Control4 interface which, through the driver's properties, must be associated with input scenarios created in the lares 4
   - Home Mode
   - Away Mode
   - Stay Mode
   - Disarming
   - Panic

3. The initial driver configuration (reading objects from the lares 4.0 control panel) is a complex operation that may take several minutes before the integration is operational and usable by the Composer. For this reason we recommend:
   - terminate the configuration of the lares 4.0 control panel before making the connection with the driver and the resulting Read From Panel
   - disable polling (property Polling Period set to OFF) if you are changing the configuration of the lares 4.0 control panel (polling is in any case restored within 60 minutes after deactivation and is only used to check the existence of communication between drivers and central).

4. Scenarios created on Ksenia lares 4.0 that do not include partitions are not displayed in the Control4 scenario list but can still be recalled from programming using the **device specific command** (see "Appendix" page 15).

2. First installation

This document describes the necessary configuration steps for integrating Ksenia lares 4.0 system with Control4 driver. We assume that lares 4.0 configurations (zones, outputs, partitions, scenarios, codes, etc.) have already been set correctly.

2.1 STEP 1 – lares 4.0

Open lares 4.0 configuration installer web interface and do the following:

1. Associate the IP Supervisor connection to all partitions (none excluded). Enter the MAC address of the Control4 controller. Without these settings the driver cannot work.
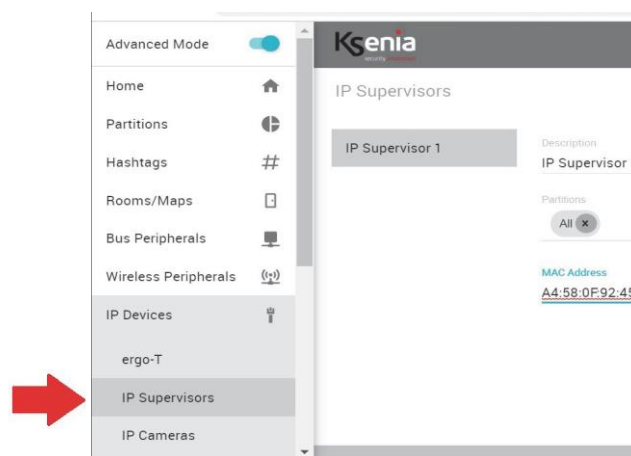
2. Configure the protocol to connect to the lares 4.0 control panel via WebServer as follows:
    • **Protocol: none (consequently, the listening port is 80) OR use TLS (and listening port 443)**
      This is a fundamental step, without it the Control4 driver cannot synchronize with lares 4.0.
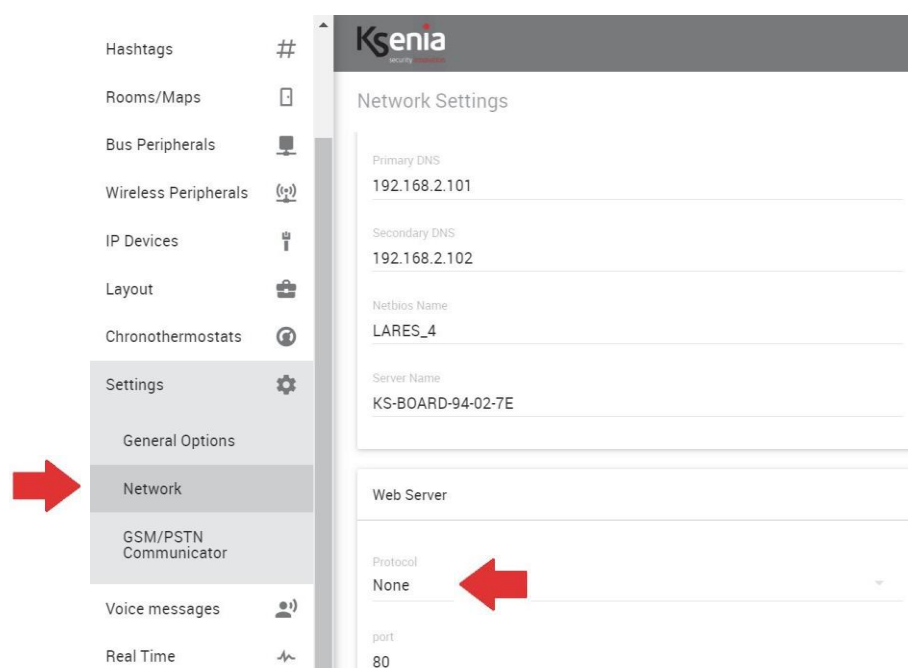
3. Create a lares 4.0 user with dedicated PIN enabled to control scenarios, zones and outputs that can be controlled by Control4 programming and connections (Output). The driver allows you to recall scenarios and check the zone exclusion status from the composer's programming menu. It also allows you to connect the outputs from the connection menu. These functions are performed through the dedicated PIN and indicated in the property as Ksenia user password (see "STEP 2 - Control4 (Composer)" page 8).

4. Create the scenarios that you plan to associate with the following features of the driver interface for each partition:
    *   Home Mode
    *   Away Mode
    *   Stay Mode
    *   Disarming

    For these buttons you should configure a scenario that arms/disarms the system.

5. Create the scenarios that you plan to associate with the following functions of the driver interface for each partition:
    *   Panic Button
    *   Custom A Scenario
    *   Custom B Scenario

    For these functions you should configure a scenario does not arm the system, because it is not possible to configure zone bypassing from these Control4 commands.

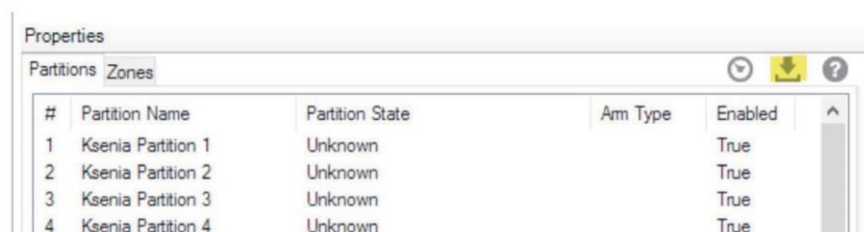| Advanced Properties	
Properties Actions Documentation Lua	
Ksenia websocket IP address	172.16.112.6
Ksenia websocket protocol	TLS
Ksenia websocket IP port	443
Ksenia installer password	123456
Ksenia user password	234567
Polling Period (minutes)	5
Ks Last Config	Driver restarted, read from panel in 120 secs
Partition 1 Panic Scenario button	read Ksenia Conf for list...
Partition 1 Away Scenario button	read Ksenia Conf for list...
Partition 1 Home Scenario button	read Ksenia Conf for list...
Partition 1 Stay Scenario button	read Ksenia Conf for list...
Partition 1 Disarming Scenario function	read Ksenia Conf for list...
Partition 1 Arm Scenario button	read Ksenia Conf for list...
Partition 1 Custom A Scenario function	read Ksenia Conf for list...
Partition 1 Custom B Scenario function	read Ksenia Conf for list...
Partition 2 Panic Scenario button	read Ksenia Conf for list...
Partition 2 Away Scenario button	read Ksenia Conf for list...
Partition 2 Home Scenario button	read Ksenia Conf for list...
Partition 2 Stay Scenario button	read Ksenia Conf for list...
Partition 2 Disarming Scenario function	read Ksenia Conf for list...

2.2 STEP 2 - Control4 (Composer)

1. Install the "Ksenia lares 4.0" driver. Note: Control4 accepts only one security system, so no other security drivers should be installed.

2. In the driver properties (accessible from the "System Design" menu) set:
    • a. **Ksenia websocket IP address**: the IP address of the lares 4.0 control panel
    • b. **Ksenia installer password**: the installer PIN used in the system
    • c. **Ksenia user password**: dedicated user PIN, required for the activation of scenarios, bypass and automatic output from Control4 logic (programming and connections) to the Ksenia power plant. The user associated with the dedicated PIN must be associated with all the partitions, zones and outputs that are to be controlled by Control4's programming and connections. Note: we recommend creating a specific user to use for the purpose of integration.
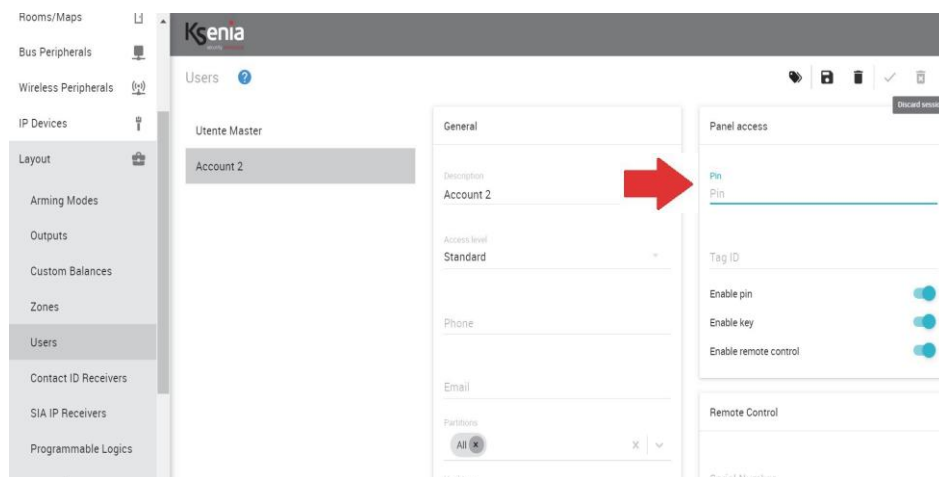
3. Perform the **Read From Panel** and wait for the configuration reading to finish.
   Note 1: the lares 4.0 control panel supports a limited number of websockets, so this operation must be carried out with at most 2 connections already open to the same central (pay particular attention to not having multiple browsers connected to the programming installer interface of the lares 4.0 , and smartphone apps).
   Note 2: this operation may take several minutes depending on the complexity of the configuration of the lares 4.0 control panel. The good result is evident from the property named **Ks Last Config** that will report date and time of reading, when the reading starts, and will add, at the date and time, the word "**- DONE**" at the end of the configuration.
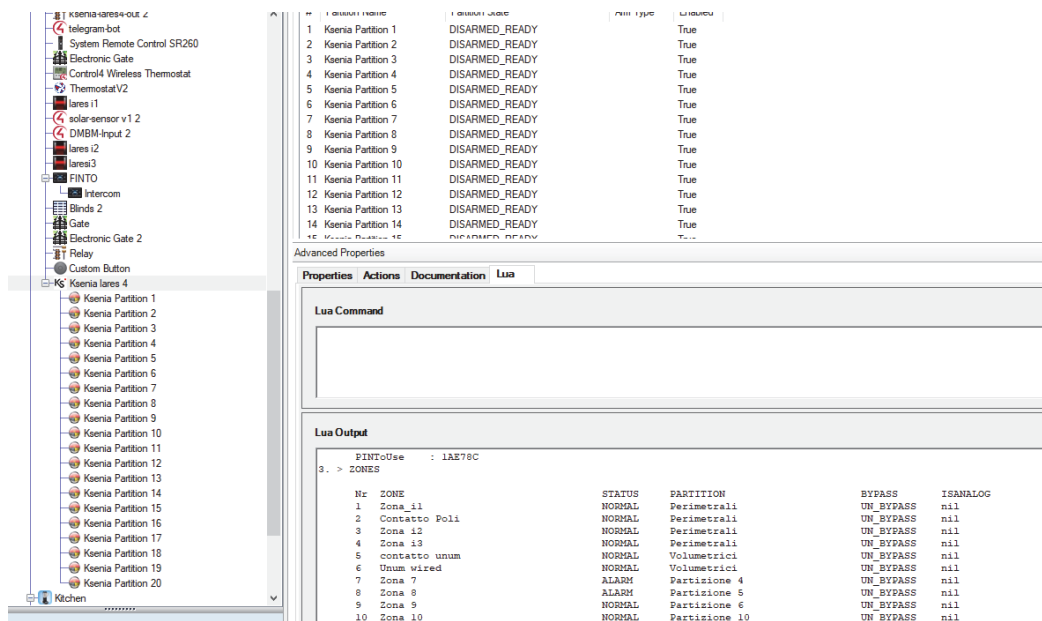

4. Check that the reading has been performed using the **Action "Display Status"** which prints the list of all the objects read updated in real time in the "Lua Output" console.

5. After reading, set the other driver properties:
    • **Polling Period (minutes)**: time, in minutes, to verify the existence of the lares 4.0 / Control4 connection. If, for example, due to LAN malfunctions, the connection is not detected, the driver continues the periodic check until the connection is restored. When restored, the Read From Panel function is automatically executed by restoring all lares 4.0 objects to the driver.The polling function can be deactivated by setting

the property OFF value, but after a period of 60 minutes the function will be reactivated automatically, reporting the period to 5 minutes.

- **Ksenia's Partition <x> Panic Scenario button**: associated with the Emergency function of the Control4 interface for partition <x>.
- **Ksenia's Partition <x> Away Mode button**
- **Ksenia's Partition <x> Home Mode button**
- **Ksenia's Partition <x> Stay Mode button**
- **Ksenia's Partition <x> Disarming function**
- **Ksenia's Partition <x> Arm button**
- **Ksenia's Partition <x> Custom A function**
- **Ksenia's Partition <x> Custom B function**

If no scenario has been associated with these properties / functions, an error message (trouble) is displayed if the Control4 interface is called up.

NOTE: unfortunately, the security proxy of Control4 does not allow you to write / update the names of the partitions after having read them from lares 4.0. Using the **Actions "Display Status"** you can view and rename the partitions in use manually.
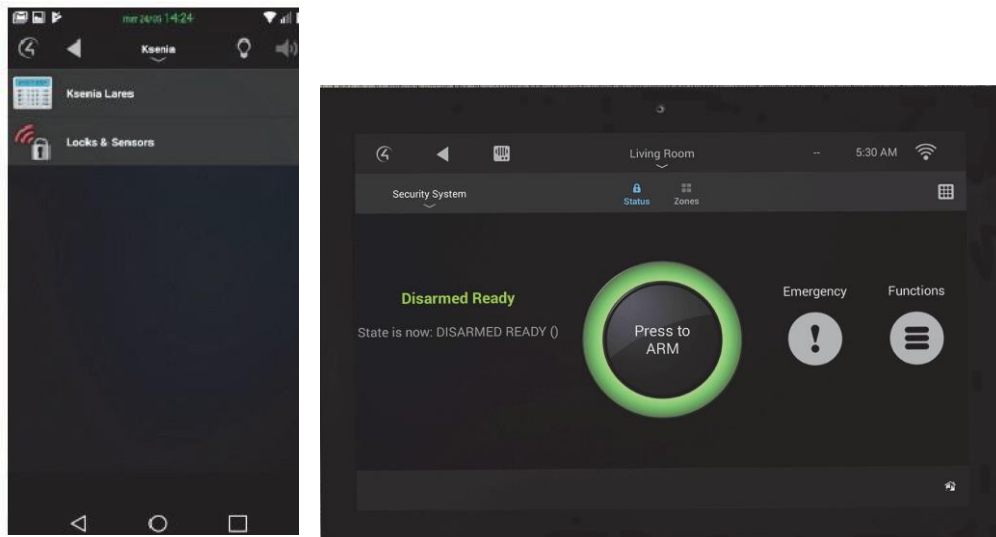

6. Perform a **navigator refresh** to update the Control4 interfaces.
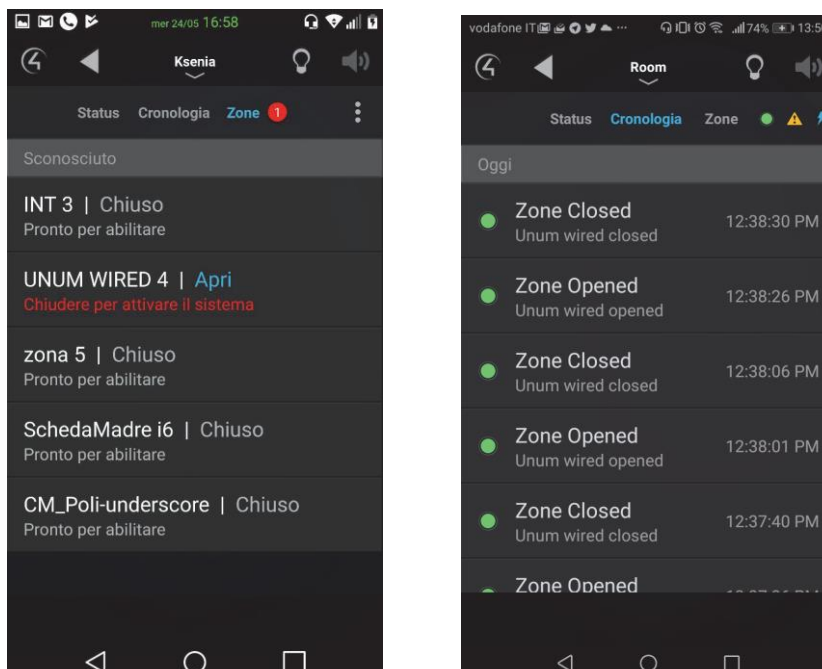
3. Use of the driver

3.1 Interface and functionality in Composer

The driver allows following operation:
• Use the Control4 security proxy interface

• Use events, states, and functions provided by that proxy

- Recall Ksenia **scenarios** using the custom keyboard of the interface, from which you can scroll through the scenarios with **Up** and **Down** keys, or quickly recall a scenario by typing the "PIN" + "scenario number".
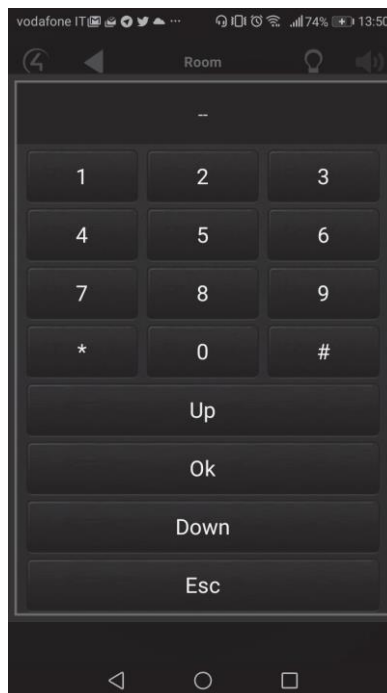
- See the status of the zones of the lares 4.0 control panel:
  - in the driver **connections** as **CONTACT_SENSOR**;
  - in **programming** as variables for both state management and **ByPass** status control (see "Appendix" page 15);
  - in the Control4 UI as provided by the security interface;

- See the status of the output of the lares 4.0 control panel:
  - in the driver *connection* as **RELAY**;
  - in *programming* as variables (see "Appendix" page 15);

- See the status of Partitions of lares 4.0 control panel;
  - in *programming* as variables (see "Appendix" page 15);

- Recall the scenarios of the lares 4.0 control panel from programming.

3.2 Actions

3.2.1 Data and Licence

Print the date and re-appear in the **"License Code" property**, to be used in case of license and / or license related changes (for example incorrectly typed value).

3.2.2 Print Log Tags

Prints the TAGs used to characterize debugged message consoles. Such messages and such TAGs are decided by the developers at the time of creating the driver. Choosing to characterize messages is intended to speed up possible debugging and erroneous settings of the two systems.

3.2.3 Display Status

Prints the status of the lares control panel read from the Driver in the console. This provides an overview of zones, partitions, outputs and scenarios, and lares 4.0 control panel information such as internal and external temperature and SIM status.
This is useful for verifying the status of Control4 / Ksenia communication and to check names and states of all lares 4.0 system components.

3.2.4 Display C4 Variable

Prints all the variables in the driver, their properties, and their status.

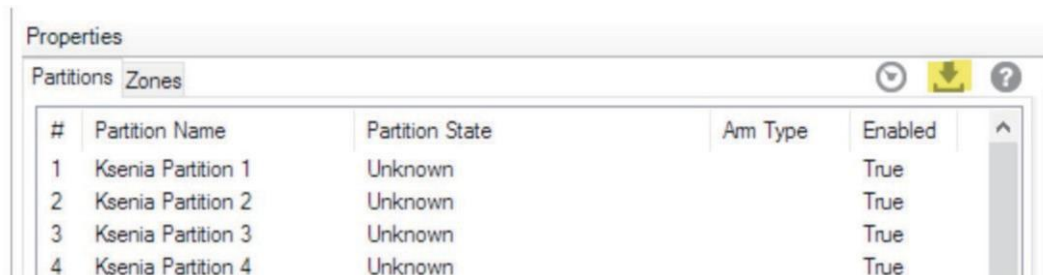### 3.2.5 Remove old Variable and Output

If you change the configuration of the lares 4.0 control panel, you can use this action to remove all the variables and outputs that are no longer used.
NOTE: We recommend using this feature at a time when other settings or readings are not being performed, to avoid misalignments and complete malfunctions.

3.3 Configuration update

In case of updates of the configuration of lares 4.0 from the installer interface such as insertion or removal of **zones, partitions, outputs**, it is necessary to re-read the configuration.
NOTE: it is important to set the **property Polling Period (minutes)** to "OFF" before updating the lares 4.0 control panel. The same is automatically restored after 60 minutes (returning the value to 5 minutes).

3.4 Troubleshooting

3.4.1 Configuration mismatch lares 4.0/Control4

It is not expected that configuration mismatching will occur in normal use. This situation can only be created during configuration by re-reading the Composer because the Control4 security proxy in some cases has problems while interfaces are updating.
If the "Display Status" action correctly displays all the elements configured on lares, but some of them are not displayed on Control4 interfaces, it is suggested that you try to fix it by performing a driver update. In any case, it is strongly advised to do the following:

1. configure all lares parameters in the most definitive way possible
2. install the driver on Control4
3. read the configuration of the lares 4.0 control panel

3.4.2 Practice for testing and putting into production

If communication tests are carried out in a "test" configuration, it is good practice to switch from test to production by following the procedure below:

1. Delete the driver,
2. Refresh the interfaces,
3. Re-install the driver
4. Read the configuration of the lares 4.0 control panel

WARNING: Deleting the driver always generates the loss of all connections and programming already done.

4. Appendix

4.1 Events or Action (triggering in programming)

Proxy	Events or Action	When it happens
Security Panel Events	Trouble Start	A "trouble" message is sent.
	Trouble Clear	The trouble message is cleared.it is automatic for messages managed by the driver, it is to be handle for messages sent with the variable "KS_TROUBLE_TEXT" described below.
Security Panel Action	In Trouble	True (1) when the partition is displaying a trouble message, False (0) when the problem is cleared.
Partition Panel	Alarm	When partition alarm occurs.
	Alarm Clear	When the partition is disarmed, but it also activates when it restarts the alarm after a first Alarm event.
	Disarmed	When partition is disarmed.
	Armed	When partition is armed.
	Partition State Changed	When partition status changes.
	Arm Failed	When a partition is not ready to arm.
	Disarm Failed	Event not supported.
	Emergency Triggered	When panic button is pressed.

Partition Panel Action	Arm	Set the partition default user code.
	Disarm	Set the partition default user code.
	Emergency	A function must be set from the Ksenia's scenario for Panic button property drop-down menu.
	Execute Function	Select one of the features available on the interface, SIM Data, Temperatures, DisarmAll. (Set the partition default user code).
	Arm All	Set the partition default user code.
	Disarm All	Set the partition default user code.
Device Specific Command	Call scenario	It allows us to recall a Ksenia scenario using its numeric ID (obtainable from Display Status).
	ByPass_Zone	It allows us to bypass a zone through its numeric ID (obtainable from Display Status).
	UnByPass_Zone	It allows you to remove the bypass of a zone through its numeric ID (obtainable from Display Status).

4.2 Security Panel - Device Variables

Variable	Type	Description	Readonly/ Writeable
TROUBLE_TYPE	String	Trouble message.	R
KS_TROUBLE_TEXT	String	It sends a trouble message that remains in the UI until the variable is overwritten. To clean the display, set it to an empty string.	W
KS_LastZoneAlarmed	String	It contains the name of the last alarmed zone.	R
KS_LastAlarmMessage	String	Contains the text of the last alarm message displayed on the Control4 interfaces (in the format "[Partition_ Name] is [Partition Status]: [KS_LastZoneAlarmed]").	
KS_PartitionsChanged	String	It contains the name of the last partition that has changed status and its status in format: "[Partition Name]> [Status]".	R

KS_PartitionsMask	String	List of ordered numbers representing the state of the partitions (updated at each variation). The states are so encoded: 0 = DISARMED_READY 1 = ARMED 2 = ALARM 3 = EXIT_DELAY 4= ENTRY_DELAY For example: 012 means that the first partition is DISARMED, the second is ARMED, the third is ALARMED.	R
P_[namePartition]	String	Status of the single partition can assume the values: DISARMED_READY ARMED EXIT_DELAY ENTRY_DELAY DELAY states occur even if time is zero. They do not show if they use the "no delays" or "immediate alarm" options	R
P-N_[namePartition]	String	It contains the name of the partition to be used for any "communications" to the UI.	R
Z_[nameZone]	String	Status of a single zone: NORMAL ALARM MASK TAMPER	R

Variable	Type	Description	Readonly/ Writeable
Z-BP_[nameZone]	Bool	Set the bypass status of a zone: true = BYPASS false = UN_BYPASS Warning: The status of the bypassed zones is always NORMAL	W
Z-N_[nameZone]	String	It contains the name of the zone to be used for any "communications" to the UI	R
O_[nameOutput]	Bool	Sets the status of an Output: true = Closed/On false = Opened/Off	W
GSM_operator	String	Contains GSM carrier name	R
Sim1_Credit	Number	It contains the SIM 1 credit (integer)	R
Temp_Indoor	Number	Indoor temperature	R
Temp_Outdoor	Number	Outdoor temperature	R

4.3 Partitions

Variable	Type	Description	Readonly/ Writeable
DISARMED_STATE	Bool	True (1) if disarmed otherwise it is False (0).	R
AWAY_STATE	Bool	True (1) if in alarm state, otherwise it is False (0).	R
DISPLAY_TEST	String	It contains the message displayed on the single partition.	R
TROUBLE_TEST	String	Trouble message.	R
IS_ACTIVE	Bool	True (1) if the partition is active and it can be used otherwise it is False (0)	R
PARTITION_STATE	String	Text representing the current state of the partition.	R
DELAY_TIME_TOTAL	Integer	It works on both Entry and Exit, it contains the total duration of the current delay. If I do not have a delay, it is 0	R
DELAY_TIME_REMAINING	Integer	It contains the remaining time after the delay expires, if I do not have a delay, it is 0	R
OPEN_ZONE_COUNT	Integer	It is the number of open zones in the partition. Usually, it is useful when the arm status is DISARMED_NOT_READY.	R
ALARM_TYPE	String	It contains a description of the alarm condition if they are in alarm state, the possible alarm states are Burglary and Panic. If it is not in Alarm, it is empty.	R
ARMED_TYPE	String	Last Date Fail to Close. Attention is never cleaned.	R
LAST_EMERGENCY	String	If Panic function is used this variable contains PANIC	R
LAST_ARM_FAILED	String	It contains Date of last Fail to Close. Attention is never cleaned.	R