



## **Talon6 GSM-Switch user manual and description.**

Talon6 GSM-Switch is a controller with 4 relays that can be managed using a phone call or by means of SMS messages. It can also inform about the status of 4 independent inputs where several sensors can be connected.

With this system we can turn on and off, from everywhere in the world, the equipment we use in our observatory, let us say cameras, PC, mount, fans, power supplies and other peripherals that are mains powered or else DC powered, with a maximum of 10 amps, as well as know the status of some of our systems, for example, open or closed roof, parked mount, etc.

Talon6 GSM-Switch can share the magnetic sensors already installed in the Talon6 ROR, Dome or Triac installation as the open, close, park, home, etc. sensors or other we can additionally install.



**Fig. 1. Talon6 GSM-Switch**

In the same way than in the IP-Switch two physical buttons have been added that can be associated to a relay or a relay group, to be used manually in the observatory to switch on or off equipments with no need of a phone call or a SMS message. Figure 2 shows one of the buttons installed at both sides of the box.



*Fig.2. Talon6 GSM-Switch buttons*

## **Managing the GSM-Switch using a phone call**

When the phone number of the installed SIM card is dialed the system will answer the call and, by means of voice it will ask for the password. The user has to enter it using the phone keyboard. The password is a string of digits ending in "#". If the password is not the correct one the system will ask for it again up to three times. If it is still erroneous it will end de call (hang up).

Once the correct password has been entered (initially 2#) the initial menu will be presented using voice, informing of the digit to push for electing among the following options.

- 1 - Relays
- 2 - Inputs
- 3 - Password change
- \* - Hang up

### **1. Relays menu**

When "1" is entered, the relays menu is presented offering the following options:

- 1 - Permanent switch on
- 2 - Temporal switch on
- 3 - Switch off
- 4 - Status
- 9 - Previous menu
- \* - Hang up

Pushing "1" we order switching on a relay until we order it to switch off. The system will ask for the number that identifies the relay (1..5); 5 means all the relays.

Pushing "2" we order switching on a relay for a given time. The system will ask for the relay number (1..5); 5 means all the relays. Next the system will ask for the time in seconds (ending in "#").

Pushing "3" we order to switch off a relay. The system will ask for the relay number (1..4); 5 means all the relays.

Pushing "4" we are asking for the status of a relay. The system will ask for the relay number (1..5); 5 means all the relays.

Pushing "9" we ask the system to present the initial menu.

Pushing "\*" we order to hung up.

## 2. Inputs

When "2" is entered in the initial menu we are asking for the status of an input. The system will ask for the input number (1..4). ); 5 means all the 4 inputs.

## 3. Password change

When "3" is entered in the initial menu we are asking the system to change the password. It will ask the user to introduce the new password (ending in "#") twice. If both are equal it will accept the new password.

In any point in the dialog a hung up can be ordered by pushing "\*".

## Managing the GSM-Switch using SMS

This system can be also managed by using SMS. For the message to be accepted it has to start with a valid password followed by the command we want to be executed. The format is as follows:

#<password>#command\*

Next the valid commands are listed:

#<password>#R<n>on\*                      Permanent switch on of relay <n>  
    n=5 --> All relays  
         Example:   #2#R2on\*                --> Switch on relay 2 until new order

#<password>#R<n>on#<time>\* Switch on relay <n> for <time> seconds  
    n=5 --> All relays  
         Example:   #2#R3on#3600\*        --> Switch on relay 3 for one hour

#<password>#R<n>off\*                      Switch off relay <n>  
    n=5 --> All relays  
         Example:   #2#R1off\*               --> Switch off relay 1

#<password>#E\*                              Ask for the system status (Relays, inputs, etc.)  
         Example:   #2#E\*                    --> Ask for the status

#<password>#C<new\_password>\*    Change the password

Example: #2#C123456\* --> Establish 123456 as the new password

#<password>#B<n>R<n>...R<n>\* Assign relays to a button

Example: #2#B1R1R4\* --> Assign relays 1 y 4 to button 1

#<password>#T<telephone#>\* Establish the telephone number for alarms

Example: #2#T+34659586687\* --> Establish the telephone number

#<password>#A<n>\* Enable an alarm for input <n>

Example: #2#A3\* --> When input 3 activates a SMS will be sent

Multiple commands can be concatenated in the same SMS (up to 160 characters). The password goes only at the start of the message.

Example: #2#R1off\* #R2on\* #R3on#3600\* #E\*

Switch off relay 1, switch on relay 2, switch on relay 3 for one hour and send a SMS with the system

Example: #2#B1R1R4\* #B2R2R3\* #E\*

Assign relays 1 and 4 to button 1, relays 2 and 3 to button 2 and send a message with the system status.

Example of the SMS with the system status (command #E\*):

=====

R1 ON // Relays status  
R2 ON  
R3 OFF  
R4 OFF

E1 OFF // Inputs status  
E2 ON  
E3 OFF  
E4 OFF

B1 R1 R2 // Buttons assignment  
B2 R3

Tel: +34659586687 // Telephone number for alarms

SMS on: E1 E4 // Enabled alarms

NS 23,0 // Telephone signal level in dB

=====

The answer given by the system when we asked for its status is as follows:

Relays 1 and 2 switched on  
Input 2 active

Relay 1 and relay 2 assigned to button 1  
Relay 3 assigned to button 2  
Telephone number for alarms: +34659586687  
Send SMS when inputs 1 or 4 are active  
Telephone signal level 23 dB (It Works properly with levels between 10 and 30)

### **Description of the supplied equipment.**

IP65 box with dimensions 12x16x7.5 cm  
Talon6 GSM-Switch board with GSM telephone module, controller and voice module  
5V, 2A power supply  
2 programmable buttons for manual use

SIM card not included

The SIM card to be installed in the GSM-Switch should have no PIN for the system to work properly.

Contact:

Miguel Ángel García. [miguelang555@gmail.com](mailto:miguelang555@gmail.com)

Antonio Pérez. [aperez@fi.upm.es](mailto:aperez@fi.upm.es)

<http://observatoriospag.es>

<http://observatoriospag.es/index.php/en/component/content/article/84-o-a-r-spag/359-talon6.html>

[http://observatoriospag.es/images/R.O.R%20Talon6/MANUAL%20IP\\_SWITCH.pdf](http://observatoriospag.es/images/R.O.R%20Talon6/MANUAL%20IP_SWITCH.pdf)

**04/02/2016**