

**TCX-Easygate Standard**  
**TCX-Easygate Pro**

**Instructions manual V 2.3**

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## **IMPORTANT NOTES and DISCLAIMER**

This device makes it possible to open a gate from a long distance, and so it becomes very important that the following safety requirements are followed:

- 1- **Open the gate only when you are near it**, so that you can make sure you are not damaging things or persons, by opening it. Make sure your gate has been manufactured and installed according to safety regulations.
- 2- **Do not dial the number while driving**, to avoid distraction. It is a good idea to have it recorded as a short number, to make it easy to dial it.
- 3- **Try as much as possible to call the gate number by mistake**, as you would open the gate, probably being far away from it.
- 4- **Do NOT install this device on gates that do not conform to safety regulations** and have the safety devices needed to avoid any problem to persons or things, even if accidentally opened.
- 5- **Avoid installing this device in doors or gates that do not close automatically**. If you do so, in case of accidental opening, the door or gate will remain open.

## **Product description**

TCX-Easygate consists in an electronic board manufactured by DPS-Promatic that links to a Siemens MC55 GSM module, supplied with it. It is the evolution of the TCS-Easygate, that we have manufactured for many years. This new version has the same features plus some improvements.

The purpose of this device is to be installed in parallel of the low voltage opening button of an electric gate to enable it to be opened by means of a GSM phone.

It has a relay whose contact has to be connected in parallel with the button which opens the gate. It has a White List of numbers who are enabled to open the phone, up to 64 in the LITE version and 300 in the PRO version.

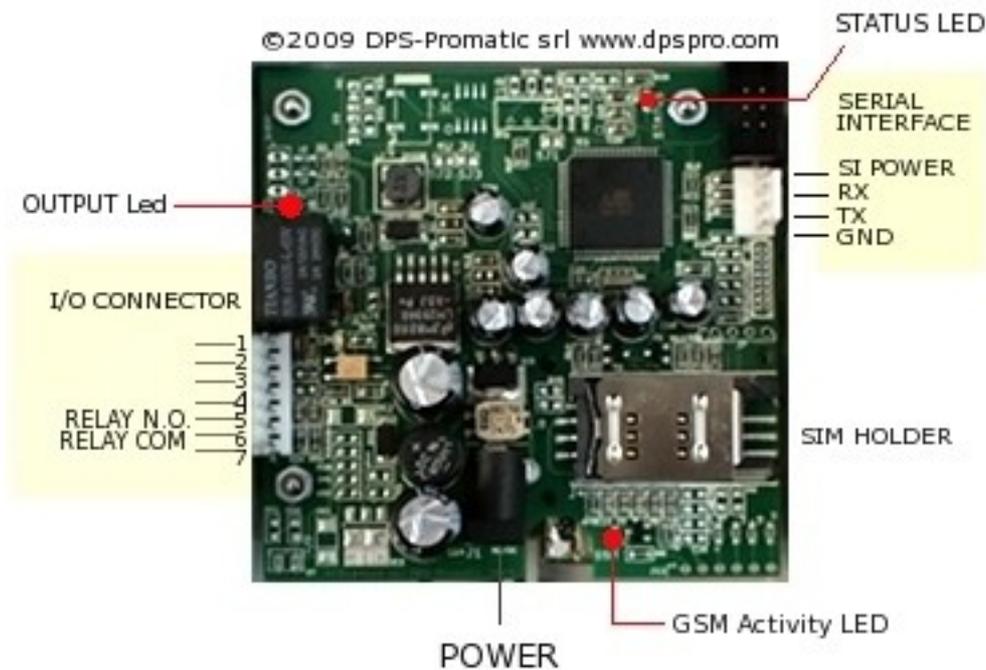
When the TCX-Easygate receives a call, it will check to see if the calling number is in the list. If it is in the list it will reject the call (so there will be no charge -at least with today's charging procedures) and click the relay momentarily.

## **Advantages of TCX-Easygate**

- 1- Safe: nobody can clone your phone as easily as they can do with a standard remote control
- 2- Flexible: you can add or remove anybody number in a minute with an SMS
- 3- Cheap: you don't need to buy a remote control for each member of your family
- 4- Convenient: no matter if you change car, or if you have different gates to open. Your phone will always be with you all the times your remote controls were somewhere else!



TCX-Easygate KIT



## TCX-EasyGate connections

### Hardware description

The TCX-Easygate board has the following connectors and signaling leds:

1. I/O connector: allows connection to the button who normally activates the gate. Relay wires available on pins 6,7 can stand 48V and 0.5A maximum.
2. OUTPUT Led: will light up when the output is activated
3. POWER: plug here the power adapter.
4. GSM Activity Led: it is the GSM module LED. When the unit is switched on it will blink faster and will start blinking slower, with a short pulse, after a short while, as soon as the unit registers to the GSM network.
5. SIM HOLDER: Insert here the GSM SIM (it will not work with an UMTS USIM), after having removed the PIN code request.
6. Serial interface: this is a serial interface available to connect of a PC for faster programming of the unit or to read in real'time the numbers of who is opening the gate. You need to buy a special level shifter cable from us in order to use this interface
7. Status LED: It will blink fast in the beginning and will start blinking slowly (1 short blink every second) when the unit is ready to receive calls or messages.

## Installation

To install the TCX-Easygate you need to connect the 2 wires of the relay contact in parallel with the gate opening button. The relay contact can stand **48V 0.5A maximum**, this is enough for its operation but **don't try to switch higher voltages or currents.**

You also need to provide the power by means of 12-24 VAC or 12 to 35 VDC. The power supply must be able to stand 1A. We supply a proper AC adapter but according to the version you have bought you may or may not have ordered it.

If you are not using our AC adapter, make sure the power supply can erogate 1A. Don't use telephone battery chargers! Most of them rely on the phone battery and are unable to supply the power needed.

You should install the TCX-Easygate in a place where there is GSM signal coming from the operator you want to use. Check it with a phone before proceeding with the installation. If you need to install the device in a place with little signal, you may consider using an external antenna that we may supply as an option to be purchased separately with 2.5mt cable.

You should then insert the SIM of the operator you want to use and program in the White List the numbers enabled to open the gate using the command WHL.

**!Note! : You must remove the PIN request from the SIM before inserting it in the unit**, otherwise the device will not work. In order to do so, insert the SIM in a phone and disable the PIN request (usually there is a security menu that enables you to do so). If you don't do it, and switch-on the unit more than 3 times you will have to reset the PIN using the PUK!!

## How to use the TCX-Easygate

To use this device you need to do the following:

- 1- connect it to the low voltage (<48V) push button of your gate
- 2- insert a valid SIM with **NO** PIN request
- 3- connect it to power
- 4- Send a Clock synchronizing message (command #SCT) to sync the date and time with the operator clock. This is not necessary to open the gate, but it is recommended if you then will want to check who opened the gate with the #WHO command.
- 5- program the ACM to be 0 if you want to open to everybody that calls or 2 if you want to use with the white list. We recommend to use 2. The option 0 can be useful for low security entrance barriers with a lot of people accessing it. Check how it is programmed sending the command #pwd123456#acm?
- 6- Start programming the numbers to which you want to give access using the command #WHL

## TCX-Easygate Programming

You can program the TCX-Easygate with SMS commands using your phone. It is safe to do so because in addition to the fact that other people may not know the number of the SIM inserted in it, we also use a Password that makes it impossible for anybody, who doesn't know it, to access the system by chance.

It is also possible to program the device by means of a PC using any communication program like Hyperterminal or Zterm. In order to do so you need to buy a special level shifting cable from us. More details about PC programming in Appendix A.

### Programming by means of SMSs

This is the easiest and most common way to program this device. It is very convenient because you don't need to access it or open the box and you can change its features (i.e. remove or add a number in the white list etc) even being far away from it.

Every command SMS must start with a valid password or the rest of it will be ignored.

Every 3 letters command must always have the # sign in front of it, in order to be recognized.

Every message should end with an #.

You can mix more commands in the same message, up to 160 characters that is 1 SMS. You cannot use multi-part sms to program this device.

SMS Once you issue a command with an SMS, you will receive a confirmation SMS with OK if everything is correct or Err if there is an Error.

The TCX-Easygate will send only up to 40 messages every 24 hours, that is a limit set for your protection.

If you don't want to receive a confirmation message, put the #NOA command at the end of the message.

## TCX-OS commands

The TCX-Easygate can be programmed using 3 digits commands, that are the same either if you program the device by SMS or using a PC.

Commands can be CAPITAL or Lower case letters. Or a mix of both: PWD=pwd=Pwd. Don't add spaces or any other character if not indicated.

These are the 2 most common commands that you will certainly use:

**#PWD:** Password

**#WHL:** White List (add or remove numbers). Works up to 64 numbers

There are other commands that you may also wish to see

**#ACM:** Access Mode

**#ATC+CSQ:** check signal quality

**#CAP:** Change password

**#END:** Exit from PC programming menu

**#GOT:** Gate pulse time

**#INI:** INitialize all parameters

**#MUT:** mutes the buzzer

**#NOA:** Do not send an acknowledgement SMS

**#OUT:** Activate / Deactivate OUTPUT 1 for x seconds

**#RTC:** Program clock date and time

**#SCT:** synchronize clock with incoming SMS timestamp

**#WHC:** Check if number is in the list (01-64)

**#WHO:** Check who last opened the gate (last 32 numbers shown)

The following commands are available only in the TCX-Easygate PRO

**#XHL:** Extended White List. Same as WHL, but works up to 300 numbers

## #PWD

*Password.* This command must always come first. Use 6 digits as a password. The standard default one, when the device comes from the factory, is 123456. You may change it, using the #CAP command.

Remember that if you change it and forget it, you will have to return the device for a total reset, and this service has a cost.

In all the following examples we will use 123456 as an example of password.

If you connect with a PC to the serial port you don't need to use the password. You are requested to type it only in the beginning.

## #WHL

*White List.* This is the command that you will use most. It is used to add or remove numbers that are enabled to open the gate into the White List. You can add up to 64 numbers in the list with this command. Every position must be indicated in the command and we advise you to keep a list written somewhere to know which numbers are in and in which position.

We advise to put always a # at the end of the last number to close the SMS.

Only in the Pro version, you can program up to 300 numbers using the XHL command

### Adding Numbers to the List

To add a number, the syntax of the command is the following:

```
#PWD123456#WHL01=5551234567#
```

(You can write also #PWD123456#WHL015551234567# without the = sign)

Where 01 is the position in the list (can be 01 to 64) and 5551234567 is the number enabled. Please note that it is possible to program up to a maximum of 10 digits for a number. If it has more digits you should use the rightmost ones. For example, if your number is 65551234567 you should program 5551234567.

If your number appears as +395551234567 you should not program the country code (+39). If your number has only 9 digits or less, it is not a problem. The important thing is that you don't exceed 10 digits.

In case your number is less than 10 digits you will read F characters as Filling digits. For example 1234567 will be stored as FFF1234567.

### Using command WHLX

In devices sold after August 2010 it is possible to use the command WHLX to store a number in the first available location. Example follows:

```
#PWD123456#WHLX=5551234567#
```

## Using the Catchall character [?]

It is possible to use the Catchall character [?] to enable a digit to all characters 0-9.

For example if you want to give access to all number from 1234560 to 1234569, you have to program 123456?

The catchall character will be shown as an A (All) in the number, so, if you program 123456?, and you read this entry, you will read 123456A instead.

### Erasing numbers:

To erase a number use #PWD123456#WHL01=0000000000#  
(or you can write over it another number you wish to add)

### Checking list entries

To check which number is in a specific position of the list:

#PWD123456#WHL01?

You will receive a message as the following:

#WHL015551234567, where 5551234567 is the number that was programmed in the list.

Please note that if the number you programmed was shorter than 10 digits, the device will automatically add F (Fill) to it. So, in case you number were 1234567, you will read now FFF1234567.

Also, if you had programmed a number with the *catchall* character [?] in it, you will now read A (All) in place of that character. So if you programmed 555123456?, you will now read 555123456A.

## #WHC

White List Check. This command allows you to check if a specific number is in the White List. It is useful to check if a specific number is already there avoiding to program it twice. It is also useful in case somebody says that he could not open, allowing you to check if the entry is in the list or not.

This command works up to 64 numbers in the Lite version and 300 numbers in the Pro version.

#PWD123456#WHC555123456#

Will send back the following:

WHC-OK:555123456=01, if it is stored as entry 01

WHC-OK:555123456=NO, if such number is not in the list

## #ACM

*Access Mode*. This command allows you to open only to people that are in the white list or to anybody calling the SIM number.

Possible options are 0 or 2.

The syntax of the command is the following:

**#PWD123456#ACM0** (last is a zero)

**Warning!** with the above command you allow free access to anybody calling!

**#PWD123456#ACM2**

with the above command you allow only people that are in the **white list**. This is the standard and recommended option.

To check how it is set: **#PWD123456#ACM?**

**#ATC+CSQ**

*Check Signal Quality.* This option lets you check the signal strength that your unit is receiving.

Example: #ATC+CSQ

Answers: 15.99

Maximum signal level is 32, minimum is 0.

If signal is below 10 the unit may not work properly. In this case it is better to change operator or to connect an antenna with a cable in order to put it in a more suitable location.

**#CAP**

*Change Password.* Use this command to change the password with a new one that you will chose for your device (don't forget it, or you will have to send the unit back to us to reset it, and this has a cost!)

The #CAP command must be issued 2 times to be sure you don't digit a wrong one. Of course it must be preceded by the old password.

For example, to change the password 123456 into the new password 333444 you need to send the following SMS:

**#PWD123456#CAP333444#CAP333444#**

You will receive a confermation with PWD OK and CAP OK if you wrote correctly or an Error message if you made a mistake.

**#END**

Exit from PC programming menu. This is not a SMS command.

**#GOT**

*Gate pulse time.* This command is useful in case you need to keep the button pressed longer. The standard time is 0,3 seconds (300 ms). You can change it

with the GOT command. The allowed range is 100-65000 ms.

NOTE: We advice that you don't change this parameter unless you are sure of what you are doing.

The syntax of the command is the following:

**#PWD123456#GOT500**

With the above command the opening time has been set to 500 ms (0,5 seconds).

You can check what the current pulse time is with the command:

**#PWD123456#GOT?**

## **#INI**

INItialize parameters to default settings. This command will erase all the eeprom and reinitialize to factory settings.

IMPORTANT!: all your numbers and other settings will be erased!!!

Password will be reset to 123456.

After issuing this command, wait at least 2 minutes before sending other commands to the unit.

## **#MUT**

*Mute Buzzer.* You can use this option to mute completely the buzzer of the device. Factory setting is 0, that means : not muted.

#MUT0: buzzer is NOT muted (factory default setting)

#MUT1: buzzer is muted

To check what the current MUT setting is: #MUT?

## **#NOA**

*NO Acknowledgement.* Use this command if you don't want the device to answer to your SMS command with another SMS.

## **#OUT**

*Activate / Deactivate OUTPUT 1 for x seconds.*

This command allows to activate the OUTPUT 1 (the only available) using an SMS. The output can be activated or deactivated forever, or can be activated for a programmable amount of time (from 1 to 65535 seconds).

If power fails, output will return off anyway, even if it were programmed for a longer time.

To activate permanently: #PWD123456#OUT01ON

TO deactivate permanently: #PWD123456#OUT01OFF

To activate for 5 seconds: #PWD123456#OUT01ON,5#

To activate for 2 minutes (120 seconds): #PWD123456#OUT01ON,120#

## **#RTC**

*Real Time Clock.* Use this command to program a specific date and time in the real time clock of the device. You will need to have it programmed well if you want to use the feature WHO in a useful way. See also #SCT.

The command is as follows:

#PWD123456#RTC09/12/05,11:58:01

and to check you can use

#PWD123456#RTC?

RTC=09/12/05,11:58:01

## **#SCT**

*Synchronize Clock with SMS TimeStamp.* This command provides a easy way to set your device clock without needing to send the longer RTC command.

Simply send: #PWD123456#SCT and your clock will be automatically synchronized with the network. This is expecially useful during Summer or Winter time changes.

## **#WHO**

*Check WHO opened the gate.* This command allows you to check the last 32

numbers (Lite version) or 128 numbers (Pro version) that opened the gate. Since all numbers would not fit into a single SMS, this command must be issued in sections of 8 numbers, followed by the number of the section you wish to see (01-04 for Lite or 01-16 for Pro). Section 01 starts from the last number which has opened.

For example, if you send the command #WHO01, you will get the answer shown below. In details, you can see numbers listed in the Last-In-First-Out sequence, where 001=1205,1302 0001 means that the last telephone to open the gate on december 5th at 13:02 was telephone listed as entry 01 (programmed with WHL01).

```
001=1205,1302 001
002=1205,1300 001
003=1205,1258 001
004=0000,0000 000
005=0000,0000 000
006=0000,0000 000
007=0000,0000 000
008=0000,0000 000
```

If you send command WHO02 to WHO04 you will get the rest of the list, up to the 32nd phone who last opened the gate

**Important note:** the WHO list is in volatile memory. It will be erased if power is removed from the TCX-Easygate

**Another important note:** the WHO list works with WHL numbers only. If you have programmed the device with ACM=0 that means that will open to everybody that calls, you will be able to see date and time in the list, but no number (000 will be shown).

## Commands Specific of the TCX-Easygate PRO

### #XHL

*eXtended wHite List*. This command is similar to WHL being the only difference the fact that WHL works from 01 to 64 and XHL from 01 to 300.

So if you purchased the TCX-Easygate Lite, you cannot use XHL.  
If you purchased the TCX-Easygate PRO, you can use both.

Remember that while WHL uses 2 digits, XHL uses 3 digits.  
So it is WHL01, but it is XHL001.

## **Most common problems and solutions**

### **Some phones cannot open the gate:**

Verify that they send the caller ID when calling another phone. Check that the number you see in the other phone is what you have programmed in the TCX-Easygate

### **I have inserted the SIM but the unit doesn't work:**

Check to have removed the PIN request from the SIM. If you didn't do it and you have switched-on the unit more than 3 times, you may need to use the PUK. Check with SIM instructions for details

### **The gate opens only sometimes:**

Check that there is enough signal from the operator you are using in the TCX-Easygate, and also from the operator that you use in the phone that is calling. Try to change operator.

### **Is it possible to open to anybody?**

Yes, you can do it using the #ACM command.

More information is available on: [http://www.dpspro.com/tcs\\_support.html](http://www.dpspro.com/tcs_support.html)

# APPENDIX A

## Programming with PC

It is possible to program this device with a PC, using the special level shifting cable that we can supply on request. Though it is not necessary to do it, it is certainly convenient if you need to handle a big enough White List.

Setup the communication software of your PC or MAC ( Hyperterminal or Zterm work well) to communicate at 9600 baud, 8 bit, no parity, 2 stop bits.

When you switch on the TCX-Easygate, it will output [hello] through the serial port and the status led will blink very fast for a few seconds.

During this time you can enter the programming menu by typing [menu] on the keyboard (only menu, no square brackets). Press Enter.

Alternatively, when the device is up and running and the status led blinks a little every second, and a [>] is shown on the screen, you can still enter the menu, in the following way:

Press ENTER on your keyboard.

The screen will show [hello]

Type [menu] and press ENTER.

The unit will enter the programming menu as follows:

```
>
  hello!
  >menu
  PASSWORD?
  >123456
  TCX OS v7.0, (c)1999-2009 DPS-Promatic srl
  Device name: TCX rev 1.0
  >
```

As you can see after having typed [menu] the device has requested to enter the password. Type 123456 if you have not changed it.

At this point you can enter the commands directly without needing to type the password anymore.

For example, let's check ACM value and then change it to 2.

```
>#ACM?  
ACM=0  
>#ACM2  
ACM-OK:2  
>
```

An interesting feature of using the PC interface is that the WHL ? Command can provide a complete listing of all the numbers that have been programmed.

```
>#WHL?  
01=348257202A 02=FF91832686 03=0000000000 04=0000000000  
05=0000000000 06=0000000000 07=0000000000 08=0000000000  
09=0000000000 10=0000000000 11=0000000000 12=0000000000  
13=0000000000 14=0000000000 15=0000000000 16=0000000000  
17=0000000000 18=0000000000 19=0000000000 20=0000000000  
21=0000000000 22=0000000000 23=0000000000 24=0000000000  
25=0000000000 26=0000000000 27=0000000000 28=0000000000  
29=0000000000 30=0000000000 31=0000000000 32=0000000000  
33=0000000000 34=0000000000 35=0000000000 36=0000000000  
37=0000000000 38=0000000000 39=0000000000 40=0000000000  
41=0000000000 42=0000000000 43=0000000000 44=0000000000  
45=0000000000 46=0000000000 47=0000000000 48=0000000000  
49=0000000000 50=0000000000 51=0000000000 52=0000000000  
53=0000000000 54=0000000000 55=0000000000 56=0000000000  
57=0000000000 58=0000000000 59=0000000000 60=0000000000  
61=0000000000 62=0000000000 63=0000000000 64=0000000000  
WHL-OK  
>
```

XHL works the same way, but stops every 64 numbers allowing you to decide whether continuing (pressing the Space bar) or exiting (pressing Enter).

When you have finished this programming session, just give command #END to exit.

```
>#END  
EXITING MENU...BYE BYE  
>
```



Important note: electronic devices may pollute the environment.  
Act according to your local laws when disposing this unit.



The PCB1041 electronic board complies with EMC regulation.  
The Siemens MC55/MC55i GSM engine complies with EMC regulation

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