



Packs Infotel Ltd

GSM WIRELESS TELELINK

INSTALLER'S MANUAL

Notes

- To Cancel the GSM dialler Press the “#” Key while the GSM is speaking to you.

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1. FEATURES

- Built-in GSM module
- 4 alarm inputs
- 4 remote control outputs
- 4 voice messages (maximum length of 10 seconds for each input)
- Shortened message (SMS) for each alarm input
- Memory stores up to 10 different telephone numbers
- Programmable dialling number sequence.
- Listen-in function
- 3 LED displays enable easy monitoring
- Built-in speaker and microphone
- Activated dialling sequence can be stopped by means of user's telephone unit

2. DESCRIPTION

The WIRELESS TELELINK is a new kind of a mobile voice and SMS dialling system. The phone memory in the form of a SIM card is used either to store telephone numbers or to program certain parameters. It is possible to record four different messages and send them to 10 different telephone numbers. The alarm inputs can be *normal open* (N.O.) and are thus triggered by a positive (+12V) or a negative pulse (GND); or they can be *normal close* (+12V or GND lost). Each alarm input enables us to send a pre-recorded voice message, an SMS or both.

The WIRELESS TELELINK has also four outputs giving the user the ability to control a certain system from distance.

3. PURPOSE and APPLICATION

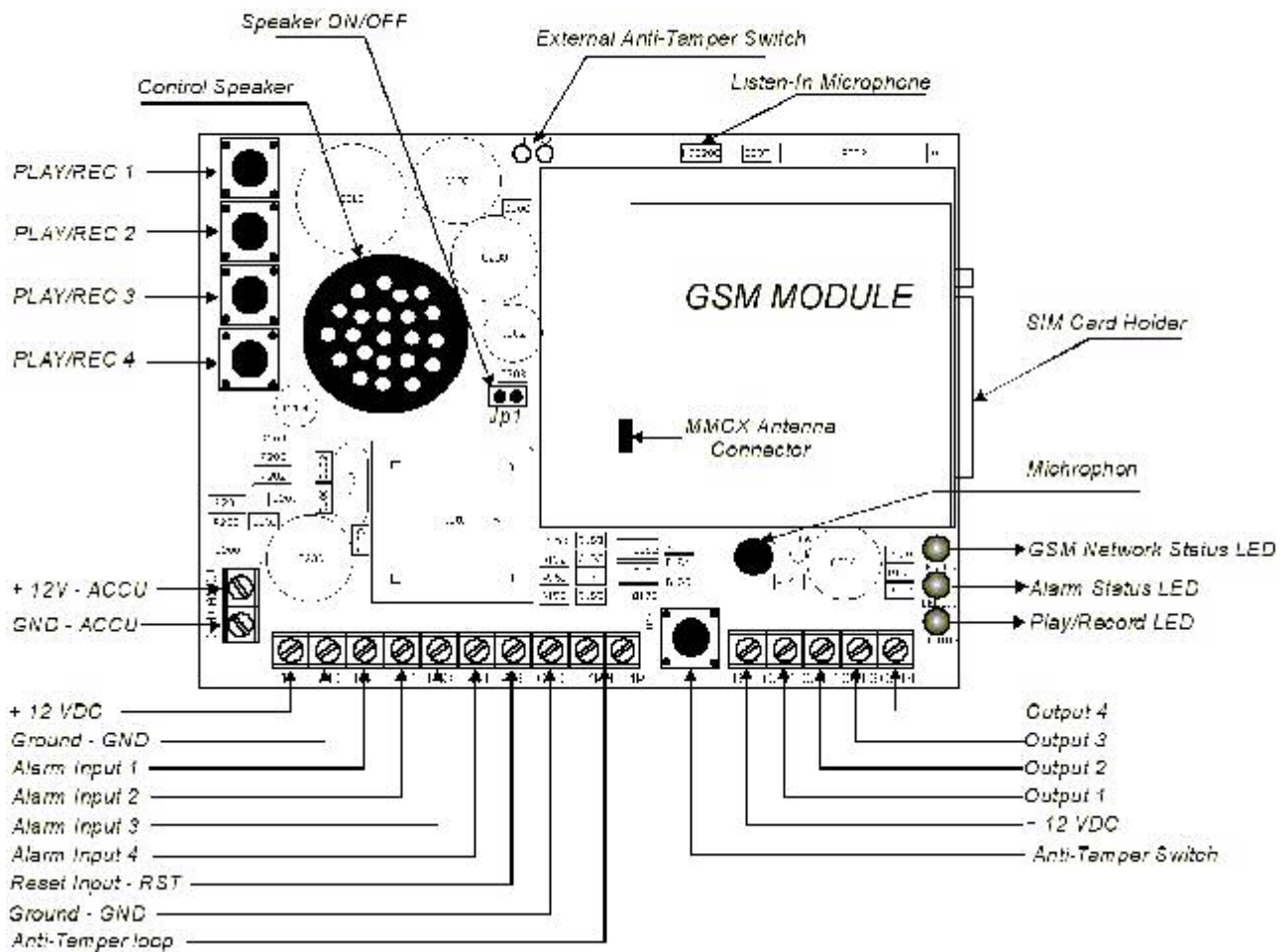
The WIRELESS TELELINK'S purpose is for the remote transmission of alarm signals over the GSM mobile network.

Below are some of the applications the unit was designed for.

- Where there is no Land Line connected and/or it is not possible to provide one.
- Where the cost of Land Line rental is prohibitive
- Where the risk of having the land line cut is high.
- Temporary locations; the unit is designed to be easily movable as it only requires a power source.
- Remote Sites; The unit can run from battery or solar power.
- **The unit is designed to be able to take SIM cards from all the major mobile providers. This allows the user to select the network that provides the best coverage for the proposed location.**

4. CONNECTION DIAGRAM

CONNECTING DIAGRAM



5. WIRELESS TELELINK PROGRAMMING MODE

All data, programming values and telephone numbers need to be stored in the phone book located on the SIM card. Therefore the use of a personal mobile phone is recommended.

5.1 HOW TO PROGRAM TELEPHONE NUMBERS

5.2 PROGRAMMING TABLE

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
TL0		1 st telephone number
TL1		2 nd telephone number
TL2		3 rd telephone number
TL3		4 th telephone number
TL4		5 th telephone number
TL5		6 th telephone number
TL6		7 th telephone number
TL7		8 th telephone number
TL8		9 th telephone number
TL9		10 th telephone number

WIRELESS TELELINK can send only a pre-recorded voice message, an 18 character–SMS message or both. If the corresponding name ends with the letter “C”, only a voice message is sent; and if the name ends with the letter “9S”, only an SMS is sent.

Example: We wish to send a voice and an SMS message to the first telephone number, only a voice message to the second one and only an SMS message to the third one. (See the table below.)

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
TL0		1 st telephone number (voice & SMS message)
TL1C		2 nd telephone number (voice message only)
TL2S		3 rd telephone number (SMS message only)

Do not send text messages to land lines.

Very important Make sure you name the first telephone number TL0 and not TLO. i.e. a zero and not a letter O.

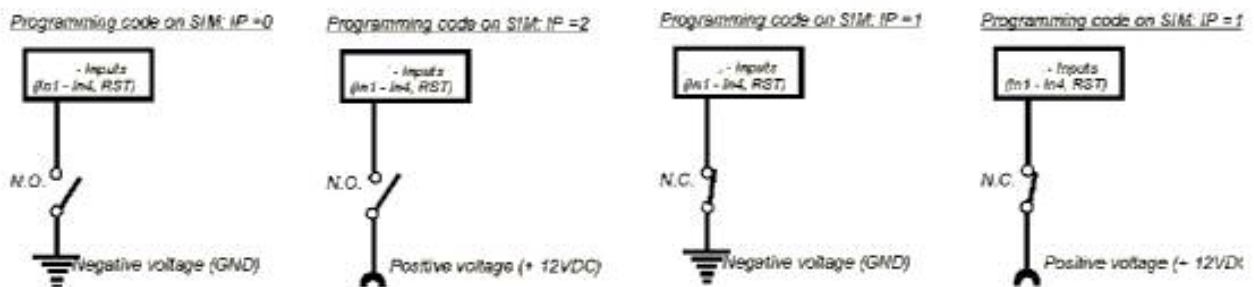
The unit will not operate with old style Orange SIMs with 90 memory positions.

5.3 HOW TO PROGRAM INPUT STATUS

Alarm and reset input can be triggered in 4 different ways. The status of the input can either be normal closed (N.C) or normal open (N.O.) with positive (+ 12V) or negative (GND) voltage.

- IP = 0 – Normal Open – triggered with negative voltage (GND)
- IP = 2 – Normal Open – triggered with positive voltage (+ 12VDC)
- IP = 1 – Normal Close – breaking negative or positive voltage loop

5.3.1 TYPICAL INPUT CONNECTIONS



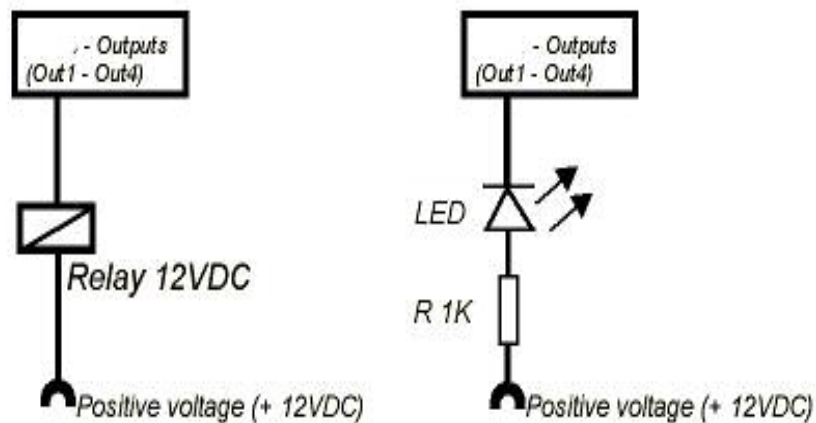
5.3.2 PROGRAMMING TABLE FOR INPUT STATUS

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
IP0	0	Input status for RST (reset)
IP1	0	Input status for alarm input 1
IP2	0	Input status for alarm input 2
IP3	0	Input status for alarm input 3
IP4	0	Input status for alarm input 4

5.4 HOW TO PROGRAM OUTPUT STATUS

The WIRELESS TELELINK device has four open collector outputs and each of them can be programmed through network in a different way: as a bi-stable or mono-stable output. One of them can be programmed so as to signal certain failure on the main device or to notify us about the expiring validity of the SIM card.

5.4.1 TYPICAL CONNECTION OF AN OUTPUT



5.4.2 PROGRAMMING TABLE FOR OUTPUT STATUS

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
OP1	0	Status for the 1 st output - disabled
OP2	0	Status for the 2 nd output - disabled
OP3	0	Status for the 3 rd output – disabled
OP4	0	Status for the 4 th output - disabled

OP (x) = 1 bi-stable ON/OFF mode

OP (x) = 2 – 240 mono-stable (pulse length in seconds) (Latch for X seconds)

OP (x) = 241 – GSM network failure (H/L) (NC)

OP (x) = 242 – GSM network failure (L/H) (NO)

OP (x) = 243 – Warning notice on the expiring validity of the SIM card (H/L) (NC)

OP (x) = 244 – Warning notice on the expiring validity of the SIM card (L/H) (NO)

5.5 INPUTS AND TELEPHONE NUMBERS LINKING

It is possible to link each number or any combination of numbers to any of the four corresponding inputs. The link LK0 is specially designed for SIM card refill SMS warning message.

5.5.1 PROGRAMMING TABLE FOR LINKING THE INPUTS AND TELEPHONE NUMBERS

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
LK0		Refill SIM – SMS (#0) & telephone No. link (TL0 - TL9)
LK1		Input & telephone No. link for 1 st alarm input (TL0 - TL9)
LK2		Input & telephone No. link for 2 nd alarm input (TL0 - TL9)
LK3		Input & telephone No. link for 3 rd alarm input (TL0 - TL9)
LK4		Input & telephone No. link for 4 th alarm input (TL0 - TL9)
LK5		Test SMS and telephone No. link (TL0 - TL9)

Example: Alarm on the first input should call the first, the third and the fourth telephone number.

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAM	NUMBER (DEFAULT)	DESCRIPTION
LK1	023	Input & telephone No. link for 1 st alarm input (TL0, TL2, TL3)

5.6 INPUT DELAY BEFORE DIALLING

The activation of the dialling procedure can be for a defined period of time (maximum of 240 seconds) delayed on each alarm input. The default value is set to "0" – having no delay before the beginning of the dialling procedure on all alarm inputs.

5.6.1 PROGRAMMING TABLE TO DEFINE THE DELAY BEFORE DIALLING PROCEDURE

WIRELESS TELELINK PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
DL1	0	Delay before dialling for the 1 st alarm input (0 – 240)
DL2	0	Delay before dialling for the 2 nd alarm input (0 – 240)
DL3	0	Delay before dialling for the 3 rd alarm input (0 – 240)
DL4	0	Delay before dialling for the 4 th alarm input (0 – 240)

The period of time for the delay of each input varies from 0 to 240 seconds.

5.7 WIRELESS TELELINK SET-UP PARAMERTERS

- **RED** – repetition of calling sequences. With the number from 1 to 99 we define how often the sequence is repeated in case the number is busy or not answered. The default value is set to number “3”.
- **CLP** – hidden telephone number. This function (“0” value) is used in order to conceal the telephone number of the device. The default value is set to “1” which means that the number is displayed.
- **RFL** – SIM card validity. The period of valid operating time varies with different GSM network providers. The value can be programmed between 1 – 36, whereas days represent multiplication of the mentioned value by 10. The default value does not presume any kind of expiry warning.

Example: If we want to get an expiry warning message after 90 days, we should enter the number “9”.

- **RFT** – Temporary validity of the SIM card. This function is pre-defined on the SIM card memory from the micro controller on the SIM card location “98”. The user can only change it when the RFL time is not regular (due to power failure or some other constant operating mode).
- **PTM** – A test SMS is sent periodically. The UNIT can send the test message in the interval ranging from 1hour up to 240 hours.
Example: if the PTM value is set to 12, the numbers linked to “LK5” get a test message every 12 hours.

5.7.1 PROGRAMMING TABLE FOR WIRELESS TELELINK SET-UP PARAMERTERS

PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
NAME	NUMBER (DEFAULT)	DESCRIPTION
RED	3	Number of dialling attempts (1 – 99)
CLP	1	Hidden telephone number (1= displayed, 0 = hidden)
RFL	Empty	SIM card time validity (1 – 36) 1 = 10days, 36 = 360days
RFT		Temporary validity of the SIM card
PTM	Empty	Periodic test SMS - disabled

5.8 SMS MESSAGES TRANSLATOR

The WIRELESS TELELINK can send a very short SMS message via each alarm input. The default message is English, but it is possible to formulate the notice in any other language. Different messages, being no longer than 18 characters, can be defined for each alarm input. Between words it is necessary to use “_” instead of a “space” character.

Example: “ALARM_ON_INPUT”

5.8.1 SMS MESSAGES PROGRAMMING TABLE

PHONE BOOK – NAME

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
#	0	R	E	F	I	L	L	_	S	I	M	_	C	A	R	D			
#	1	A	L	A	R	M		I	N	_	P	R	O	G	R	E	S	S	
#	2	F	I	R	E	_	I	N	_	P	R	O	G	R	E	S	S		
#	3																		
#	4																		
#	5	P	K	N	4	_	P	E	R	I	O	D	I	C	_	T	E	S	T

Normally, when we want to store the SMS text, the telephone number needs to be entered. Since the latter is required only because of the basic design of the phone book memory, it is not important what kind of a number we enter.

Each text starts with a two-character command: # and number:

- #0 – text for SIM card refill – default = refill SIM in days
- #1 – text for 1st alarm input – default = alarm on input
- #2 – text for 2nd alarm input – default = alarm on input
- #3 – text for 3rd alarm input – default = alarm on input
- #4 – text for 4th alarm input – default = alarm on input
- #5 – text for periodic test – default = periodic test

6. RECORDING AND LISTENING TO VOICE MESSAGE

The memory of each alarm input enables us to record our own voice message in the total length of 10 seconds. The device is namely equipped with a microphone and a speaker, giving us the option to listen to what we have recorded. The speaker can be switched off by removing the jumper JP1 compound.

Recording process:

1. Press PLAY/REC key (1-4) and hold it as long as the LED3 display is lit.
2. Start speaking.
3. Release key – message recording process finished.
4. Check recorded message by quickly pressing the (1-4) key.

Erasing:

Press PLAY/REC key (1-4) and hold it as long as the LED3 display is lit, then stop recording. Follow the same procedure for all four messages.

7. START UP

- Insert SIM card to be used for WIRELESS TELELINK in your personal mobile phone.
- Enter telephone numbers and the required operating parameters in SIM memory
- Insert SIM card in the GSM module ON the WIRELESS TELELINK device.
- Connect alarm inputs and outputs
- Connect device to source voltage.
- Record voice messages.
- Wait until LED2 display is turned off and LED1 starts flashing.
- WIRELESS TELELINK s now ready to operate.

8. LED DISPLAY

LED1 –

Green - *Flashing:* - Within GSM signal power. The number of flashes ranging from 1 (poor) to 5 (very good) shows quality of the GSM network signal

Turned on: - recording mode.

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LED2 – Red - *Flashing:*

1 – alarm on input 1

2 – alarm on input 2

3 – alarm on input 3

4 – alarm on input 4

Red - *Turned on:* device is not ready for operation.

LED3 – red

Helps us to control recording and playback of voice message.

Turned on: Message being recorded.

Flashing: Recorded message being listened.

9. WIRELESS TELELINK REMOTE COMMANDS

We can call the device from any phone and according to that it answers only if the calling number is in the phone book from TL0 to TL4. This is made with a short beep.

NOTE:

ONLY TELEPHONE NUMBERS STORED UNDER THE NAME “TL0 – TL4” CAN ENTER THE REMOTE MODE!

9.1 REMOTE COMMAND TABLE

REMOTE COMMAND	ACTION DESCRIPTION
00	All outputs OFF
01	Play message 1
02	Play message 2
03	Play message 3
04	Play message 4
10	Output 1 OFF (bi-stable)
11	Output 1 ON (bi-stable) or ON for mono-stable
12	Check the output 1 state (1 beep=ON, 3 beeps=OFF)
20	Output 2 OFF (bi-stable)
21	Output 2 ON (bi-stable) or ON for mono-stable
22	Check the output 2 state (1 beep=ON, 3 beeps=OFF)
30	Output 3 OFF (bi-stable)
31	Output 3 ON (bi-stable) or ON for mono-stable
32	Check the output3 state (1 beep=ON, 3 beeps=OFF)
40	Output 4 OFF (bi-stable)
41	Output 4 ON (bi-stable) or ON for mono-stable
42	Check the output4 state (1 beep=ON, 3 beeps=OFF)
90	Valid SIM counter set to RFL value (after SIM refill)
99	Listen-in ON (optional)
*	Don't call this tel. number again (tel. no. from TL0 - TL9)
#	Cancel the dialling procedure (only tel. no. from TL0 - TL4)

Important – To terminate “Listen – in” mode key 01 to play message 1. If you forget, the next time the dialler calls it will still be in “listen-in” mode and will not play the speech message.

10. TECHNICAL SPECIFICATION

- Power supply.....13, 8V DC (+/- 15%)
- Current consumption (idle mode).....50 mA
- Current consumption (idle mode).....350 mA
- Dual band GSM module.....900/1800 MHz
- Number of inputs.....04
- Number of outputs.....04
- Number of voice messages.....04
- Total length of recording time.....40 second
- Number of SMS messages......06

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