JVA Cellular Gateway Quick Start Guide
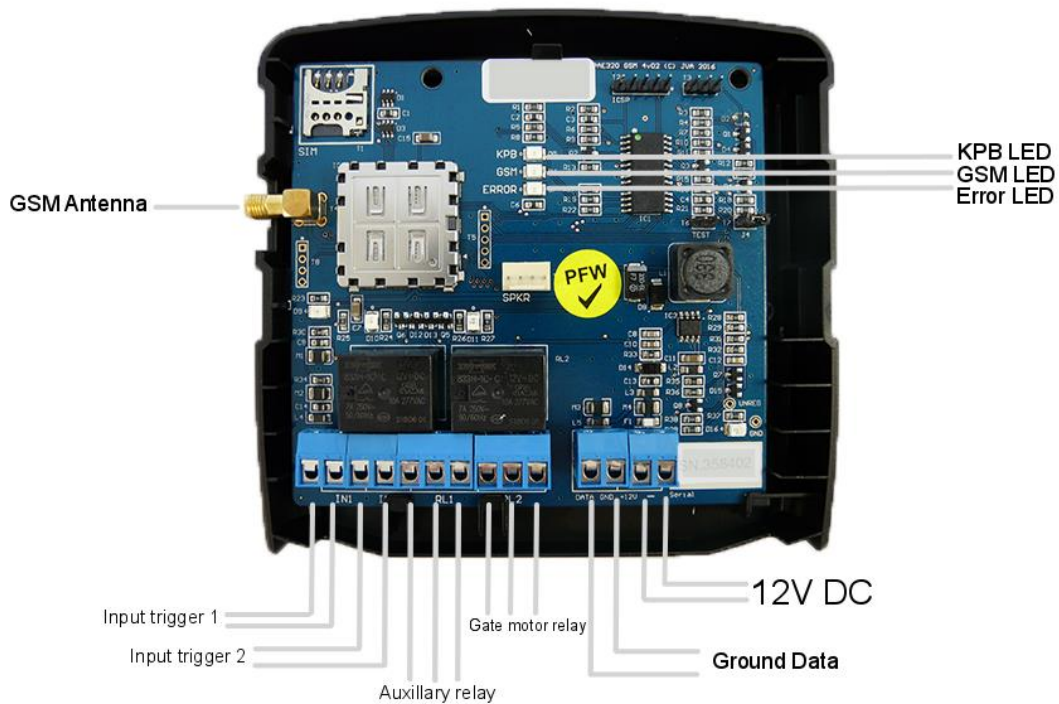
PTE0320

Introduction

The PTE0320 JVA Cellular Gateway connects a group of JVA Z Series devices to the Cloud Router system.

This quick-start guide tells you how to program the devices, and connect and configure the PTE0320 Cellular Gateway.

Specifications

Power supply	**12 - 24V DC 200mA** Separate power supply recommended, can also be powered by Keypad Bus
Communications	**Keypad Bus** Up to 15 Z Series devices can be connected Unit nominally uses Keypad ID 8
Inputs (2)	**Dry contact or active pull-down** Responds to terminals being shorted OR connect the right-hand terminal to 0V
Outputs (2)	**30V DC 8A SPDT**
SIM	**Micro**
Network	**2G** (PTE0320_2G) 850/900/1800/1900MHz **3G** (PTE0320_3G) B1/2/5/6/8/19 + 2G as above **4G** (PTE0320_4G) 4G B1/3/5/7/28 + 3G B1/5 + 2G as above
Antenna connector	**Female SMA** Ensure antenna is mounted away from sources of interference such as AC or high voltage cables. Antenna should be mounted external to any metal enclosures.

Overview

LED Indicators

KPB	Blink when the unit is communicating with Z series devices
GSM	Blinks when the unit can receive SMS Fully lit when connected to the Cloud Router server (can also receive SMS)
ERROR	Flashes an error code if there is a problem with the SIM or Cellular network

Before you start

Ensure the Z Series devices are programmed, and have a group master (unit with ID 1). Power up all devices and make sure they are disarmed. Refer to device manuals found at

http://www.jva-fence.com/downloads.php

Activate your SIM card and test it in a mobile phone. The gateway predominantly uses data, typically less than 1MB per day, so a long term pre-paid plan of >500MB per year is recommended.

Installation

Unclip the circuit board from the case back. Mount the case back using suitable screws.

The unit is not water-proof and must be mounted indoors or in an enclosure.

Insert the SIM card. Clip the PCB into the case back.

Connect the antenna.

Remove any pluggable screw terminals before wiring to them, then plug them in   as needed. Connect inputs and outputs first, then keypad bus wiring (Data and Ground), then connect 12V DC.

This diagram shows a typical set-up.

Confirm the KPB is flashing, the ERROR light is not flashing, and the GSM light is fully lit. Clip on the case front. If the GSM light is on, your JVA Cellular Gateway is ready to use.

Cloud Router Configuration

Important – The GSM light must be fully lit before you can add devices to the Cloud Router system. If the light is off or flashing, it is not connected to the server. Refer to the Troubleshooting section for more information.

Ensure you have registered an account at https://cloudrouter.pakton.net/register. The activation email may have gone to your junk folder.

Log into your account at https://cloudrouter.pakton.net/login

When the GSM light is on, follow the instructions at http://jva-fence.com/CloudRouterGuide.php to set up your site and add your devices.

SMS Function

The PTE0320 Gateway can be controlled by SMS, and contact a report list of up to 10 numbers in case of an alarm, arm state change, or trouble. See http://jva-fence.com/sms for full instructions.

Most commands a prefixed with a configurable PIN. The default PIN is 1234 and is shown in examples in this guide.

Get signal information

During set-up, it may be useful to check signal strength and confirm unit details. If the GSM light is blinking or lit, you can send an SMS to the unit of

```
1234 g
```

to receive a signal strength report.

Set APN

In some countries it may be necessary to manually set the provider APN information. This information allows cellular devices to connect to the internet and is specific to each telecommunications provider. The unit has been pre-programmed with the APN information of most major telecommunications providers so confirm with your local dealer if this step is necessary. You may need to contact your telecommunications provider to determine the correct APN settings.

To change the APN, first remove the default jumper **J4**. Now send an SMS to the unit of the format

```
apn <apn> <username> <password>
```

where <apn> is the access point name, <username> and <password> are the login details. Both username and password may be blank. You will receive a confirmation SMS if the settings were successfully stored. Remember to re-fit **J4** when you are finished.

To clear custom APN settings and use the pre-programmed information, send the SMS

```
apn
```

Set PLMN

In some rare cases your telco may require manual network selection. Contact your local dealer to confirm. If required, the network operator can be set at the same time as the apn by sending an SMS of the format

```
plmn <5 to 7 digit mcc/mnc code> <apn> <username> <password>
```

where the apn, username and password are optional and can be blank.

Report List

The unit can store up to 10 phone numbers which it will SMS if an input changes, or a device goes into alarm or goes offline. This list is configured and maintained using the **add** and **remove** commands. You can retrieve the current list of numbers using the **numbers** command.

Controlling Energisers and Outputs

The unit can turn all energisers on (arm) or off (disarm) by issuing the **on** or **off** commands. When arming, the unit will arm in high power only, and arm both channels of any dual channel energisers.

The unit has two relays than can be turned on, off, or pulsed for 1 second. Issue an **output1** or **output2** command with the parameter **on**, **off**, or **pulse**. Sending no parameter defaults to 'pulse'. Note there is no space between "output" and the number "1" or "2". The unit will reply with a confirmation message.

Gate By Ring Function

A gate motor connected to output 1 can be triggered by a phone call to the PTE0320. For security, it will only operate if the caller's phone number is in the report list. The output will be a 1 second pulse. To enable or disable this function, send an SMS to the unit of the format

```
1234 ring on
```

to enable the function, or

```
1234 ring off
```

to turn the function off (default).

Factory settings

To restore a unit to factory settings, power off the device. Remove **J4**. Power the unit back on. After 5 seconds, the unit will have returned to factory default settings. Re-fit **J4**.

Warning: This will remove all memory of seen devices, reset the SMS pin, clear the SMS report list and custom APN/PLMN settings, and clear SMS-only mode and Gate-by-ring mode.

SMS Command Summary

Command	Description	Example	Response
changepin <PIN> or **c** <PIN>	Changes the PIN	1234 changepin 4321	PIN is now 4321
		4321 c 1234	PIN is now 1234
		1234 c 123	Invalid PIN
add or **a** or **add** <number> or **a** <number>	Adds your number, or the specified number, to the report list	1234 a	+61412345678 has been added to the report list
		1234 a +61 41 234 5678	
		1234 a 555JVAROCKS	Invalid phone number
numbers or **n**	Requests the report list	1234 numbers 1234 n	1.+61412345678
remove or **remove** <index> or **r** <index> or **remove** <number> or **r** <number>	Removes your number, the number at the given index, or the specified number from the report list	1234 r 1234 remove 1 1234 r +61412345678	+61412345678 has been removed from the report list
		1234 r 2 1234 remove 041 234 5678	Number not found in report list
gsm or **g**	Requests GSM status	1234 gsm	Signal: 25 Fw: 2v00
status or **s** or **?**	Requests energiser/monitor primary voltages, arm and alarm state, and unit input and output state	1234 status 1234 s 1234 ?	Z14(1) On (6.8kV, 6.4kV) No alarms ZM20(2) Off LowBatt In1 Off In2 Off Out1 On Out2 Off
help or **h**	Requests a command summary	1234 help 1234 h 1234	This table, summarised
on or **arm**	Arms all devices	1234 on	Energiser(s) are on
off or **disarm**	Disarms all devices	1234 off	Energiser(s) are off
clear	Re-scans device group. Should be used when connected devices are changed	1234 clear	Device list cleared. Re-analyzing group..
ring <on|off>	Enables/disables Gate-By-Ring function	1234 ring on	Gate open (output 1) by phone call function now on
cr <on|off>	Enables/disables Cloud Router function. Not recommended.	1234 cr on	CR enabled
output1 <on|off|p> or **out1** <on|off|p> or **1** <on|off|p > or **aux** <on|off|p > **output2**<on|off|p > or **out2** <on|off|p > or **2** <on|off|p > or **gate** <on|off|p >	Controls relay 1 or 2	1234 output1 on	Output 1 is now on
		1234 1 off	Output 1 is now off
		1234 out2 on	Output 2 is now on
		1234 gate off	Output 2 is now off

Troubleshooting

Fault	Likely Cause	Remedy
No lights are on	Power is not connected Power wires are reversed	Check power connections Check voltage at power connections with a multimeter
KPB light not flashing	Keypad bus is not connected	Check the keypad bus DATA and GND connections
GSM light off or flashing	System is still initialising. If problems are detected, the ERROR light will give more information. If the GSM light is flashing it means the unit is not yet connected to Cloud Router but can receive SMS commands.	
ERROR light flashing	1 Flash: Problem with the SIM. SIM card faulty, not inserted, or PIN locked	Confirm SIM is activated by inserting into a mobile phone and sending and receiving texts
	2 Flashes: Cellular network problem SIM not activated, banned, or out of credit Poor signal strength	Check SIM plan and credit Check antenna connection Move antenna mounting place
	3 Flashes: Cellular internet problem Plan does not support data, or out of credit	Check SIM plan and credit
	4 Flashes: Unable to connect to internet Plan does not support data, or out of credit APN information incorrect	Check SIM plan and credit Contact local dealer for APN information
	5 or 6 Flashes: Hardware fault	Contact local dealer
Unit does not control energisers	Keypad ID clash	Disconnect the other keypad or change its ID
	Energiser malfunction	Confirm a JVA keypad can control the energiser using the same connections
	Group configured incorrectly	If there is more than one energiser, ensure one is configured as master (device ID 1) and the others have unique device IDs of 2 or more

If the unit is still not working correctly, contact your nearest JVA distributor for technical support.

JVA Distributors

If you have any questions or need further assistance, please email us at sales@jva-fence.com.au or call

Region	Number
Australia	07 3103 0582
South Africa	0861 782 349
World Wide	+61 7 3103 0582

For more information on our complete range of electric fencing products please see the JVA website at www.jva-fence.com

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