Electric Fencing Products

Z28 User Manual

1 QUICK START GUIDE

1.1 CHANGING THE PROGRAMMING OPTIONS

Default Installer PIN	012345
Default User PIN	1234

First you have to enter Programming mode.

Command	Key1	Key2	Key3	Key4	Key5	Key6	Key7	Key8	Key9
Enter Programming Mode	Installer Pin						*	0	#

When you have entered Programming mode you can begin to enter the following options to configure your Z28 Security Energizer. Default Values are highlighted in grey.

Command	Key1	Key2	Keys 3 and 4	Key5
Change the Installer PIN 6 Digits	0	0	Enter the new 6 digit Installer PIN	#
High Power Mode Power Level	0	1	Enter the value in Hundreds of Volts Example: to set 8.2kV, use 82 for keys 3 and 4. Default is 85 (8.5kV)	#
Low Power Mode Power Level	0	2	Enter the value in Hundreds of Volts Example: to set 1.3kV, use 13 for keys 3 and 4. Default is 11 (1.1kV)	#

Command	Key1	Key2	Keys 3 and 4										Key5
Return 1 Fence Alarm Voltage For High Power Mode	0	3	Enter the value in Hundreds of Volts										#
			Example: to set 3.8kV, use 38 for keys 3 and 4. Default is 40 (4.0kV)										
Return 2 Fence Alarm Voltage For High Power Mode	0	4	Enter the value in Hundreds of Volts										#
			Example: to set 3.8kV, use 38 for keys 3 and 4. Default is 40 (4.0kV)										
Return Fence Alarm Voltage For Low Power Mode	0	5	Enter the value in Hundreds of Volts										#
			Example: to set 0.8kV, use 08 for keys 3 and 4. Default is 05 0.5kV)										
Bad/Missed Pulse Count Before Alarm Triggers	0	6	Enter the number of Missed Pulses										#
			Example: to set 14 counts, use 14 for keys 3 and 4. Default is 03										
Battery Alarm Voltage (Volts). Alarm Value Shown, Reduced Power is 1V less	0	7	00	01	02	03	04	05	06	07	08	09	#
			9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	
Siren On Time (S=Seconds, M=Minutes)	0	8	00	01	02	03	04	05	06	07	08	09	#
			10S	30S	1M	2M	3M	4M	5M	20M	45M	130M	

Command	Key1	Key2	Keys 3 and 4										Key5
Siren Off Time	0	9	00	01	02	03	04	05	06	07	08	09	#
(S=Seconds, M=Minutes)			10S	1M	2M	5M	10M	20M	30M	40M	50M	60M	
Siren Cycles	1	0	00	01	02	03	04	05	06	07	08	09	#
			0	1	2	3	4	5	6	7	8	9	
Gate Entry/Exit Delay (S=Seconds, M=Minutes)	1	3	00	01	02	03	04	05	06	07	08	09	#
			0S	30S	1M	2M	3M	4M	5M	6M	7M	8M	
Chime Mode	1	4	00		01		02		03		04		#
			None		Door Chime		Siren		Fence Alarm		Gate Beeps Plus Siren		
Combined Options 1 (Add up the options you want. E.g. for Max Power and Limit output: 2 + 4 = 6 Therefore enter 06 for keys 3 and 4			+1	+2	+4	+8	+16	+32	+64	+128			#
			N/A	Max Power	2.5J limit per zone	N/A	Disarm on comms fail	Stop sending alarm memory	Ignore Low Battery Alarm	N/A			
Anti Bridging Threshold	1	7	Enter in the percentage difference required to trigger the Anti-Bridging alarm. e.g. if you require a 10% change in return voltage to trigger the alarm, enter 10 for keys 3 and 4. Default is 00 (Disabled)										#

Command	Key1	Key2	Keys 3 and 4								Key5
Combined Options 2 (Like Combined Options 1)	1	8	+1	+2	+4	+8	+16	+32	+64	+128	#
			Siren Chirp on Arm	Enable Entry Exit Gate	4800 Baud	9600 Baud	N/A	N/A	N/A	N/A	
Auto Re-arm Time S=Seconds, M = Min, D=Disabled	2	0	00	01	02	03	04	05	06	07	08	09	#
			0S	30S	1M	2M	3M	4M	5M	6M	7M	D	
Relay 1	2	1	Explained under "1.1.1 Relay Functions" Default is 09 (Strobe 1)										#
Relay 2	2	2	Explained under "1.1.1 Relay Functions" Default is 13 (Strobe 2)										#
Relay 3	2	3	Explained under "1.1.1 Relay Functions" Default is 08 (Siren)										#
Group Mode	2	6	00	01	02	Etc	15						#
			No Group	Master	Slave 1		Slave 14						
Input 1	2	7	Default is 00 (N/O Arm/Disarm). See "1.1.2 Input Functions"										#
Input 2	2	8	Default is 16 (N/C Gate 1). See "1.1.2 Input Functions"										#
Input 3	2	9	Default is 17 (N/C Gate 2). See "1.1.2 Input Functions"										#
Exit Programming Mode	*	#											

1.1.1 Relay Functions

The table below is for use for the relay programming options mentioned in the table on the previous page.

Keys 3 and 4	Function	Description
00	Fence 1	Triggers when Zone 1 is Armed and Return Voltage is below the Threshold Voltage
01	Fence 1 or Off	Triggers when Zone 1 is Disarmed or Return Voltage is below the Threshold Voltage
02	Armed 1	Zone 1 is Armed
03	Fence 2	Triggers when Zone 2 is Armed and Return Voltage is below the Threshold Voltage
04	Fence 2 or Off	Triggers when Zone 2 is Disarmed or Return Voltage is below the Threshold Voltage
05	Armed 2	Zone 2 is Armed
07	General	Triggers on AC Fail, Tamper, Low Battery/Bad Battery, Gate Alarm or Internal error. Latched (internal errors only)
08	Siren	Triggers on Fence Alarm, Gate or Tamper. Will time out after the Siren Time Out time. Latched
09	Strobe	Triggers on Fence alarm, Gate or Tamper. Only turns off on Energizer Disarm. Latched
10	AC Fail	Triggers on AC Fail
11	Low/Bad Battery	Triggers on Low or Bad Battery
12	Tamper	Triggers when the Tamper Input (if configured) is triggered
14	Gate 1 or 2	Triggers on a Gate Alarm

Keys 3 and 4	Function	Description
15	Siren Caused by Gate	Behaves like siren, only for Gate Alarms
16	Armed - Low Power Mode	Triggers when Armed in Low Power mode
17	Group Armed	Triggers when group is Armed. Only configurable on group master.
18	Group general	Triggers on group general Alarm. Only configurable on group master.
20	Host Control	This Relay is completely controlled from a Host system such as Perimeter Patrol or a Keypad. If the Host system is disconnected from the Energizer for more than 30 seconds, the Relay will automatically change to the Alarm State
21	Host Control - Not Fail Safe	This Relay is completely controlled from a Host system such as Perimeter Patrol or a Keypad. If the Host system is disconnected then the Relay will maintain its current state until the Host re-connects and requests the relay to change state.

1.1.2 Input Functions

Key3	Input Trigger	Key4	Input Function
0	Normally Open (Active when Closed)	0	Arm All Zones when Active / Disarm otherwise
1	Normally Closed (Active when Open)	1	Arm Zone 1 when Active / Disarm otherwise
2	Momentary Toggle (Toggle between states)	2	Arm Zone 2 when Active / Disarm otherwise
3	NO Pulse Extend (Extend a short Close signal by 3 seconds)	3	Low Power when Active / High Power otherwise. Requires Energizer to be Armed
4	NC Pulse Extend (Extend a short Open signal by 3 seconds)	4	Low Power Zone 1 when Active / High Power otherwise. Requires Energizer to be Armed
		5	Low Power Zone 2 when Active / High Power otherwise. Requires Energizer to be Armed
		6	Gate 1 is Open when Active / Closed otherwise
		7	Gate 2 is Open when Active / Closed otherwise
		8	Tamper Alarm triggered when Active
		9	Pass Through input signal to other device

1.2 SUMMARY OF KEYPAD FUNCTIONS

Command	Key1	Key2	Key3	Key4	Key5	Key6	Key7	Key8	Key9	Key10
Arm/Disarm	USER PIN				#					
Silence the Energizer Siren	1	4	7	0	#					
Enter Programming Mode	INSTALLER PIN						*	0	#	
Enter Keypad Programming Mode	INSTALLER PIN						*	0	1	#
Exit Programming (Any Mode)	*	#								
Change a User PIN, 4 Digits	USER PIN				*	0	#	[New PIN]	#	
Arm All Zones (Multi-Zone Groups)	USER PIN				*	1	0	#		
Arm Specific Zone (up to Zone 15)	USER PIN				*	1	Zone Number		#	
Disarm All Zones	USER PIN				*	2	0	#		
Disarm Specific Zone (up to Zone 15)	USER PIN				*	2	Zone Number		#	
Switch to Low Power Mode (All Zones)	USER PIN				*	4	1	#		
Switch Specific Zone to Low Power	USER PIN				*	4	1	Zone Number		#
Switch to High Power Mode (All Zones)	USER PIN				*	4	2	#		
Switch Specific Zone to High Power	USER PIN				*	4	2	Zone Number		#
Arm Gate Zone only	USER PIN				*	4	#			
Bypass Siren (All Zones)	USER PIN				*	5	2	#		
Bypass Specific Zone Siren	USER PIN				*	5	2	Zone Number		#

Command	Key1	Key2	Key3	Key4	Key5	Key6	Key7	Key8	Key9	Key10
Re-enable Siren	USER PIN				*	5	1	#		
Re-enable Specific Zone Siren	USER PIN				*	5	1	Zone Number		#
Bypass Gate Alarm (All Zones)	USER PIN				*	5	4	#		
Bypass Specific Gate Alarm	USER PIN				*	5	4	Zone Number		#
Re-enable Gate Alarm (All Zones)	USER PIN				*	5	3	#		
Re-enable Specific Gate Alarm	USER PIN				*	5	3	Zone Number		#
Arm in Agricultural Mode (No Alarms)	USER PIN				*	9	Zone Number			
Reset and Display Firmware Version	USER PIN				*	6	8	#		
Reset and Return to Factory Defaults	INSTALLER PIN						*	6	8	#

Energizer Function	Key1	Key2	Key3	Key4
Clear Alarm Memory	*	1	#	
Display the Group ID of the Energizer	*	2	6	#
Siren Test	*	6	3	#
Battery Test	*	6	4	#
Power Boost	*	9	9	#
Panic (Trigger the Siren and Disarm the Energizer)	Press the Panic Key for 3 seconds continuously			

Keypad Specific Function	Key1	Key2	Key3	Key4
Re-analyse the Energizer Group	*	6	8	#
Keypress Beep On/Off	*	5	1	#
Chimes On/Off	*	5	3	#
Error Tones On/Off	*	5	4	#
Keypad Alarm Tones On/Off	*	5	5	#
Change Backlight Mode	*	8	#	
Display Keypad Model	*	9	#	

1.3 JUMPERS

Jumpers quickly allow you to turn on and off different features, or reset the device to defaults. For more information on how to use the configuration jumpers and what each one does refer to “7.4 Jumpers” on page 38.

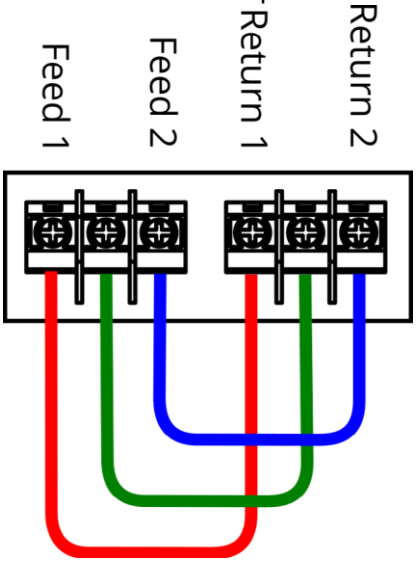
JUMPER	FUNCTION
J3	Inhibit AC fail error.
J4	Factory default jumper Off to return programmable options to factory defaults on power up.

Jumpers are located in the middle of the board above the Keypad Connector

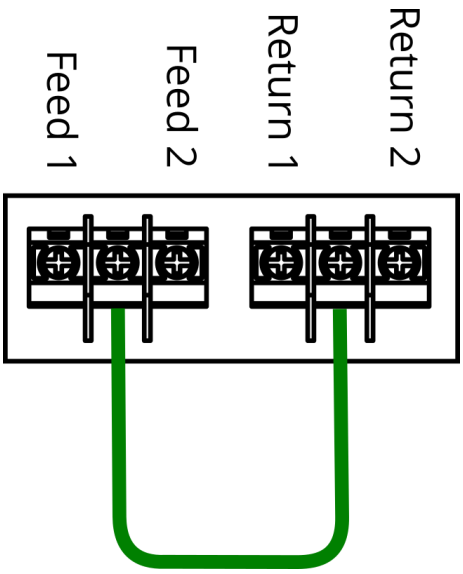
1.4 QUICK TEST OF CONFIGURED UNIT

Now that the Z28 is configured to your fences requirements, it is a good idea to test the configuration before connecting the Z-Series energizer to a fence. The reason for this is that you could get spurious results if you test on the final fence and you will never be certain whether the issue lies with the fence, the Z-Series energizer, or the configuration of the unit itself.

To test your unit it is best to connect your Z28 with a test fence, this is done by connecting the cables as shown in the picture below.



Power the Z28 and then Arm it. The unit should begin pulsing and not show any alarms. Disarm the Z28 and remove the fence cable as shown in the picture below.



Arm the Z28 once again, after 3 pulses (unless you configured it otherwise) the unit should go into alarm as the fence will appear to be cut. Check that any sirens, strobes or relays correctly activate as you expect.

If your site consists of multiple Z-Series test each energizer one at a time as shown in the above photographs. Following that each energizer should be assigned a unique group ID with only one Z-Series device as the master unit (For more information see “13 Appendix A: Group Simultaneous Pulse Feature” on page 78). After that each Z-Series device can be connected together via the keypad bus and tested using group Arm and Disarm commands, they should all pulse in unison when armed.

By disconnecting each Z-Series Energizer in turn from the keypad bus (shown in the above diagram) you can check to see how each Z-Series device behaves under communications failure (comms fail) conditions. This way, you can test to see that the relays have been configured correctly for comms fail. Once you are satisfied that each Z-Series device is configured correctly you can begin to wire them to the real fence.

1.5 CONNECTING YOUR Z28 TO THE FENCE

This is covered under “5.3 Example of Fence Wiring” on page 32. Indepth installation instructions begin on page 30. After the Z28 has been wired up you can begin to protect your perimeter.

2.6 MOST FREQUENTLY USED LCD KEYPAD COMMANDS

For a full list of all keypad commands please see “10.6 Summary Of Keypad Functions” on page 60.

Default Installer PIN	012345
Default User PIN	1234

First you need to connect the Z-Series LCD keypad to the Z-Series device. Once you have a keypad connected you can refer to the table below to control the Z-Series device.

Command	Key1	Key2	Key3	Key4	Key5	Key6	Key7	Key8	Key9
Arm/Disarm	User PIN				#				
Silence alarm	1	4	7	0	#				
Enter Programming Mode	Installer PIN						*	0	#
Exit Programming Mode	*	#							
Arm All Zones	User PIN				*	1	0	#	
Arm Specific Zone (up to Zone 15)	User PIN				*	1	Zone Number		#
Disarm all Zones	User PIN				*	2	0	#	
Disarm Specific Zone (up to Zone 15)	User PIN				*	2	Zone Number		#
Clear alarm memory	*	1	#						