

Z-5R / Z-5R Case

Standalone access control controller User Manual - English

For electromagnetic and electromechanical locks

This English guide is prepared from Iron Logic's official Z-5R documentation (version 1.02). It applies to the Z-5R PCB controller and the Z-5R Case version supplied in an ABS enclosure.

IronLogic BG

Keep this manual for installation, configuration and servicing.

1. Overview

Z-5R and Z-5R Case are standalone controllers for one access point. They operate electromagnetic or electromechanical locks with a Dallas Touch Memory contactor or a proximity reader that emulates the iButton protocol.

Connectable equipment:

Device	Use
External reader / contactor	iButton (Dallas Touch Memory) input
Lock	Electromagnetic or electromechanical
Exit button	Normally-open door release button
LED and buzzer	External visual and audible indication
Door sensor	Door-open monitoring and lock timing

2. Technical specifications

Parameter	Value
Reader protocol	iButton / Dallas Touch Memory
Key capacity	Up to 1364
Key types	Master, Normal and Blocking
Memory backup	DS1996L key supported
Lock output	MOS transistor, 5 A maximum switching current
Lock-release timer	0 to 220 seconds (factory setting: 3 seconds)
Supply	12 V DC
Maximum current	45 mA
Case / PCB dimensions	65 x 65 x 20 mm / 46 x 26 x 15 mm
Operating temperature	-30 to +40 C
Case material	ABS plastic (Z-5R Case)

3. Terminals and wiring

No.	Terminal	Function
1	ZUMM	External 12 V buzzer output; maximum current 50 mA.
2	TM	External reader or iButton contactor signal.
3	GND	Signal ground for reader, contactor, sensor or exit button.
4	EXIT	Door-release button; short to GND to unlock.
5	LED	External LED output; maximum current 20 mA.
6	LOCK	Negative connection for the lock coil.
7	+12V	Positive supply / positive lock-coil connection.
8	GND	Power-supply negative.
9	DOOR	Door sensor input; use a twisted pair.

Use a twisted-pair cable (for example UTP CAT5) for the reader or key probe to reduce interference. With iButton communication, connect reader GND to controller GND and reader data to TM. Supply the reader according to its own requirements.

4. Operating principle

The controller stores cards/keys and their status in its internal access-control database. A Master card is used only for programming. A Normal card gives access in standard operation. A Blocking card gives access in both Standard and Blocking modes and can enable/disable Blocking mode.

For a new controller, memory is empty. At first power-up the controller beeps for approximately 16 seconds, indicating Add Master Card mode. Touch a card to the connected reader during this period to save the first Master card.

5. Programming with a Master card

Short touch means less than 1 second. Long touch means approximately 6 seconds. Each programming mode times out after approximately 16 seconds of inactivity; four short beeps confirm exit.

Mode	Activation	Result
1. Add Normal / Blocking	1 long Master touch	Touch a new card briefly for Normal status; hold it for about 9 seconds for Blocking status.
2. Add Master cards	1 short + 1 long Master touch	Touch each new Master card. Exit automatically after inactivity.
3. Delete selected cards	2 short + 1 long Master touch	Touch each Normal or Blocking card to delete it.
4. Clear all memory	3 short + 1 long Master touch	Erases the entire access-control database.
5. Set lock-release time	4 short Master touches	Use card touches as the documented timing sequence; default is 3 seconds.
6. Blocking mode	1 Blocking-card touch	Allows only Blocking cards; touch again to leave.
7. Accept mode	5 short Master touches	Existing cards and new cards are granted access; new cards are saved as Normal.
8. Save to DS1996L	1 short + 1 long Master touch	Touch an initialized DS1996L key to copy controller memory.
9. Load from DS1996L	Initial power-up	With memory cleared, hold the prepared DS1996L key on the contactor.

Important: If all Master cards are lost, the controller memory must be erased before a new Master card can be created. Back up the database first where possible.

6. Jumpers

Switch off power before changing jumper positions.

Position	Function
1	Electromechanical lock: voltage is off while the lock is closed.
2 - CLR	Clear controller memory. Switch on with the jumper in this position; all keys are erased and the timer returns to 3 seconds.
3 - ADD	Add Normal and Blocking cards without a Master card. Power on, then use a short touch for Normal or a long touch for Blocking.
4 / no jumper	Electromagnetic lock: voltage is on while the lock is closed.
5	Trigger mode for electromagnetic locks only. Each known Normal or Blocking card toggles lock state.

7. Installation

1. Open the Z-5R Case enclosure. 2. Mark and drill the mounting holes. 3. Connect external devices to the terminals. 4. Fit the protective diode as required by the lock circuit. 5. Set jumper position 1 for an electromechanical lock. 6. Apply power and program the first Master card. 7. Place the controller inside the enclosure and fasten the cover.

For high-traffic electromagnetic locks, use a suitable protective diode or varistor in the lock circuit to protect the controller's current-suppression circuit.

8. Package, conditions and warranty

Package contents	Quantity
Z-5R or Z-5R Case controller	1
Jumper	1
Case (Z-5R Case only)	1

Operating conditions

Use indoors, away from precipitation, direct sunlight, sand, dust and moisture condensation. Relative humidity must not exceed 98% at 25 C. Device parameters may deviate from specification outside the recommended conditions.

Limited warranty

The manufacturer provides a 24-month limited warranty from the date of sale. Warranty is void if the manual is not followed, the device is physically damaged, exposed to moisture or aggressive chemicals, or shows unauthorised modification. Manufacturing defects are repaired or defective parts replaced under the active warranty.

Need help?

For product support, installation advice or compatible readers and locks, contact IronLogic BG.

Reference: Iron Logic Z-5R / Z-5R Case Standalone ACS Controllers User Manual, version 1.02.