External IP Reader Quick Guide

Version 2.0

August ,2026

A4ER-series IP reader: web-managed, Ethernet/PoE connected, IP65, TLS 1.3 communication, model-dependent RFID credentials, and standalone event storage.

1. Safety rules before wiring

Reader power Use PoE OR a 12VDC / 2A minimum switching supply. Never connect the 12VDC input while PoE is active.

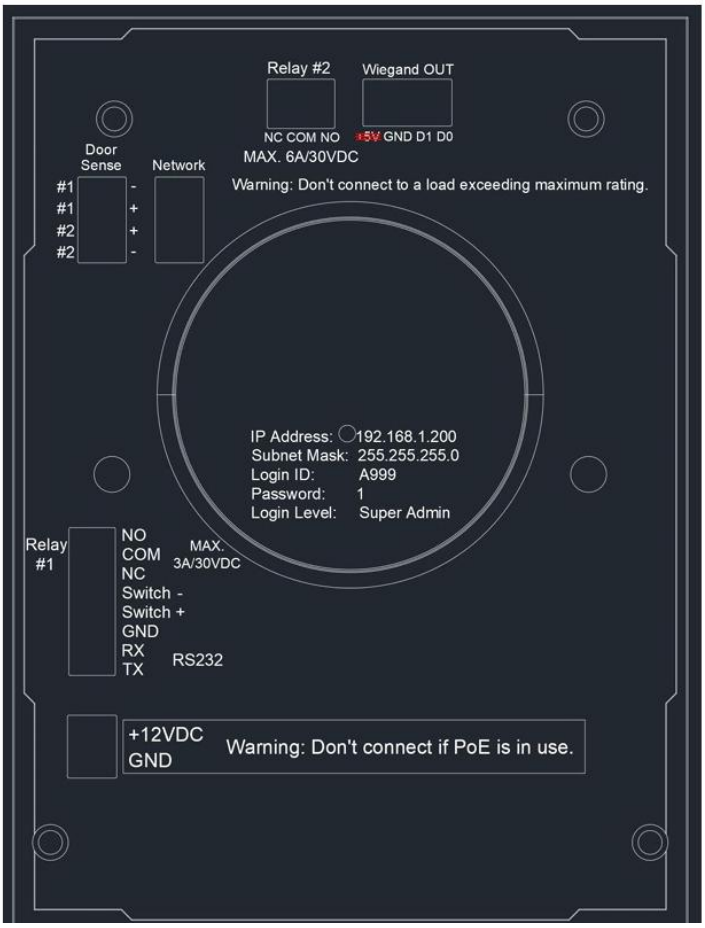
Separate lock power Do not share the reader DC power supply with the door lock. Lock current and transient loads can destabilize or damage the reader.

Back-EMF protection For DC electric locks, install an appropriately rated flyback diode across the lock. Cathode/stripe to positive; anode to negative. Current ACTAtek system documentation gives 1N4004 for ~1A loads and 6A1 for 1-6A as examples.

- Disconnect all power before terminating or changing reader/lock wiring.
- Keep reader/network wiring separated from mains/high-current cabling and from lock power where practicable.
- Confirm the lock type (fail-safe or fail-secure) before selecting Relay #1 NC or NO.
- Do not exceed the rating printed on the installed reader hardware. The supplied back panel marks Relay #1 at max. 3A/30VDC.
- Relay #2 on the supplied back-panel layout is reserved for doorbell use and noted as not installed; do not use it as a second door relay.
- Use approved fire-alarm and emergency-release interfaces for egress doors. This manual shows functional concepts, not a substitute for the project life-safety design.

IP Readers connected to AMS together with ACTAtek devices, turnstiles, UHF/parking and IoT modules to position the reader as part of the unified platform.

2. Back panel and terminals



Supplied current back-panel reference. Labels on actual hardware take precedence.

Item	Current specification
Network	RJ45 Ethernet / PoE network connection.
+12VDC / GND	Alternative reader power input. Do not use when PoE is active.
Relay #1 NO / COM / NC	Primary door-control dry-contact relay; supplied panel marking max. 3A/30VDC.
Switch + / Switch -	Request-to-exit / door-switch input.
Door Sense	Door position/contact input. Use the supported channel for the specific reader/firmware.
Wiegand OUT	D0, D1 and GND for third-party controller integration. Do not rely on the marked +5V pin unless the installed hardware documentation confirms it.
RS-232 RX / TX / GND	Serial interface for supported external integrations.
Relay #2	Reserved for doorbell on this panel.

3. Reader power and network

Option A - PoE

Connect the reader to an IEEE 802.3af/at PoE switch/injector using Cat5e/Cat6. Leave the +12VDC input disconnected.

Option B - 12VDC

Use a stable 12VDC / 2A minimum switching supply dedicated to the reader. Do not share this supply with the lock.

Network addressing

Current platform supports static IP and DHCP. For field installations, use a static address or a documented DHCP reservation.

Default IP settings:

Default IP Address: 192.168.1.200
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.254.

Commissioning check Before connecting the lock, power the reader and verify the Web UI is reachable. Confirm firmware, IP settings, relay operation, door switch and door sense independently.

4. Relay #1 logic

Terminal	Function
COM	Common pole of Relay #1.
NO - Normally Open	Open at rest; closes when access is granted. Typical for fail-secure/power-to-unlock locks.
NC - Normally Closed	Closed at rest; opens when access is granted. Typical for fail-safe/power-to-lock magnetic locks.
Dry contact	The relay switches an external lock supply. It is not a lock power output.

5.LED Status Indicators

The LED indicators display the operating status of the ACTAtek External IP Smartcard Reader.

	Red	Green/Red	Green
Power Up			
Authentication Fail			
Authentication Pass			
Standby / Ready			
Reset Button (IP)		Sequence	
Jumper setting		Sequence	
System maintenance			
Network Offline			
RTC chip (clock chip not correct)		blinking	
Firmware upgrade			

6.Reset Procedure Using Built-in Switch

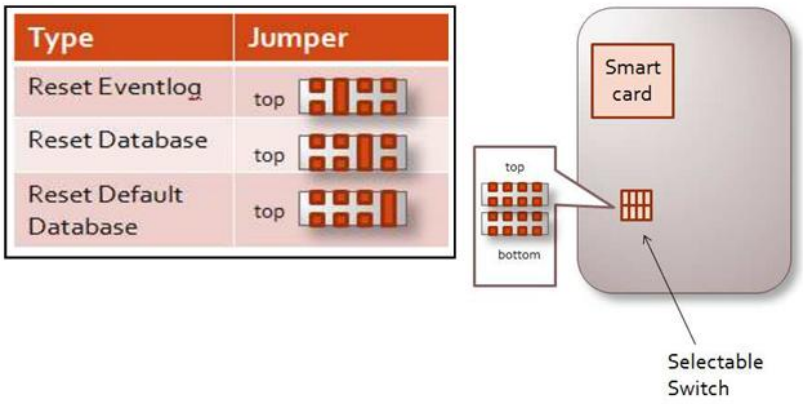
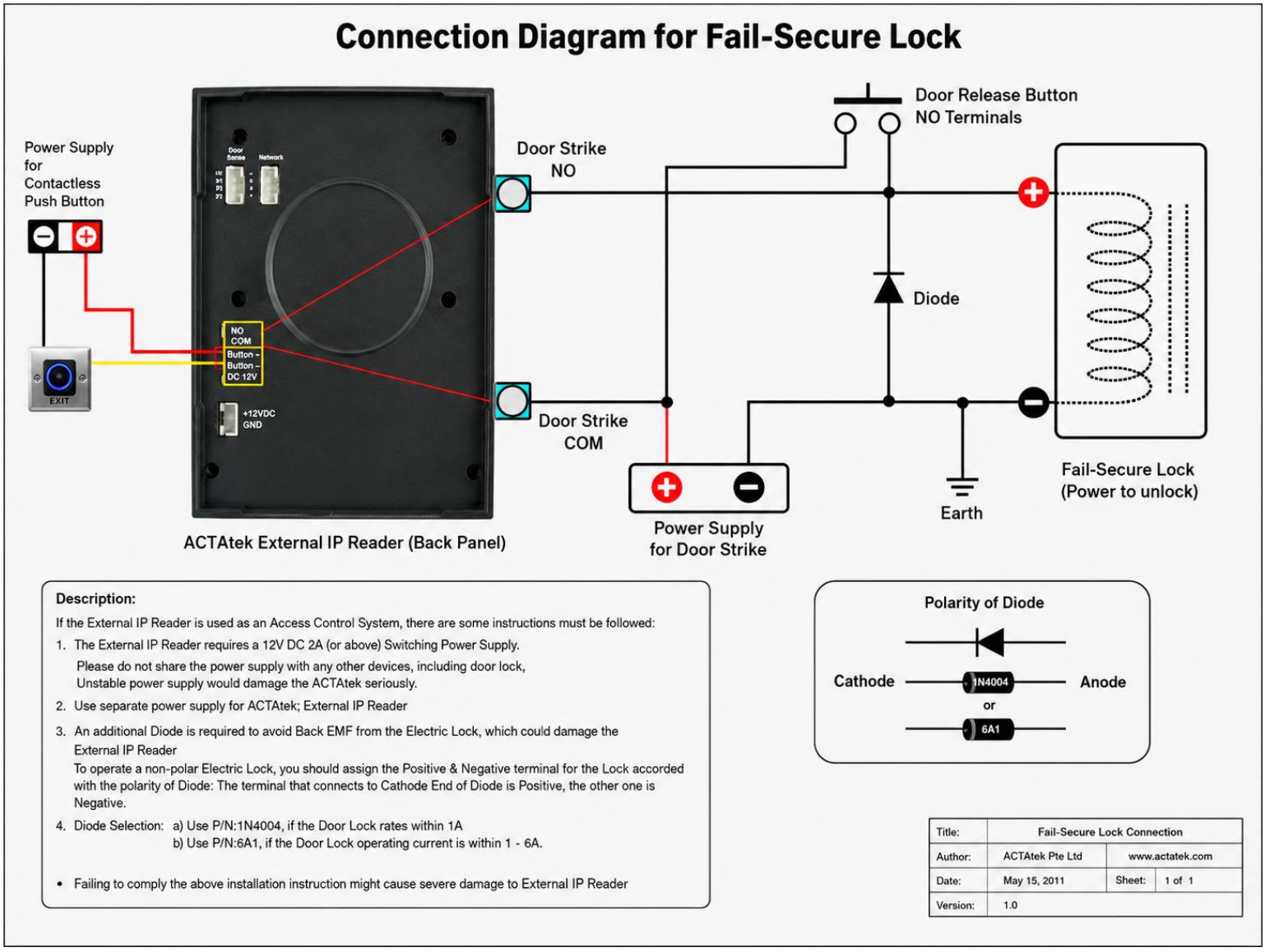


Figure 6.1. The diagram above illustrates how to reset the event log, database, and default settings of the External IP Smartcard Reader without logging into the Web Interface.

The built-in hidden selectable switch allows resetting to different default configurations.

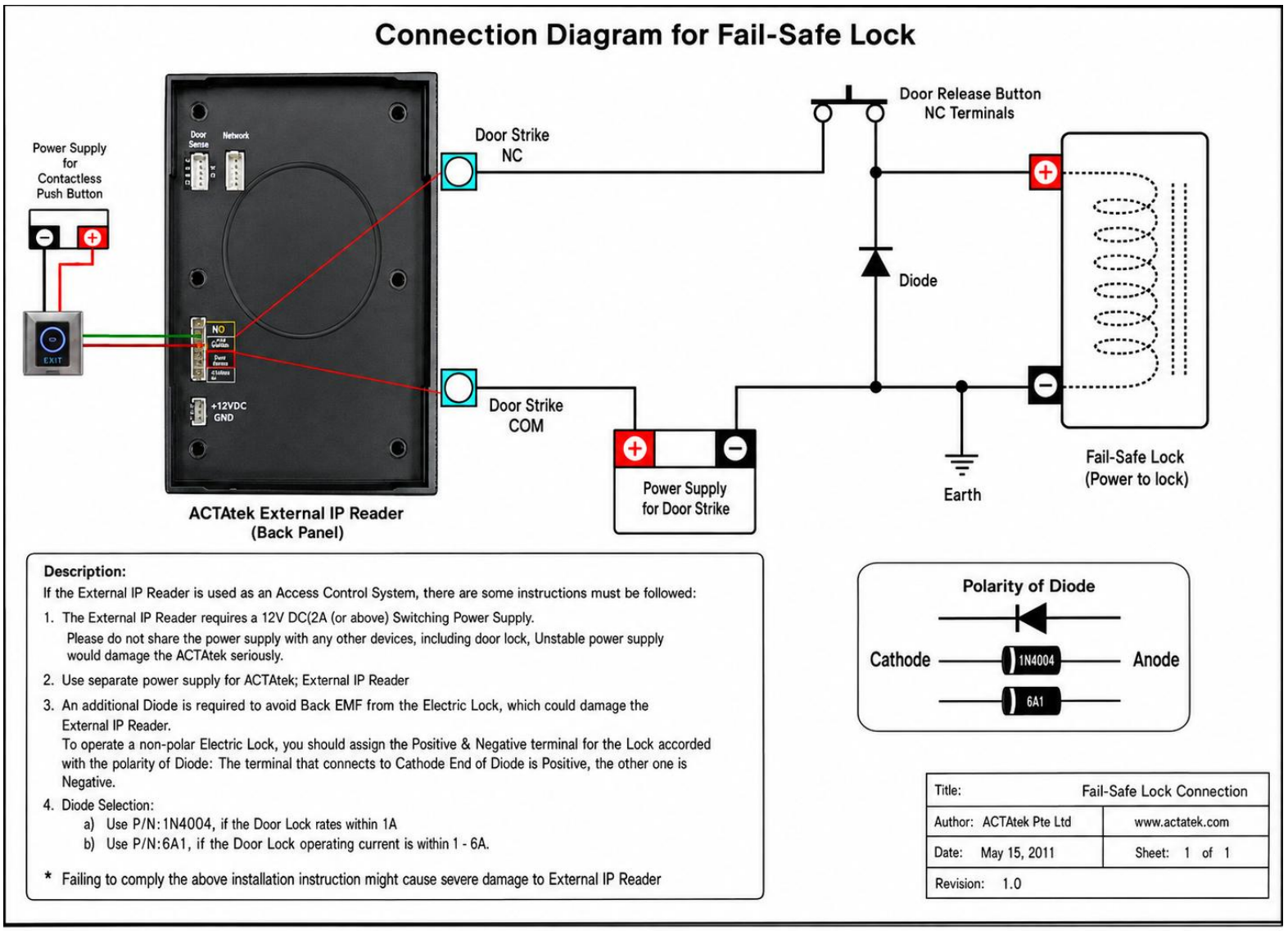
During the reset process, the orange LED will blink within **10 seconds**, followed by two beeps. The orange LED will then turn off for **2 seconds**. Once the orange LED turns back on, the reset has been successfully completed.

7. Fail-secure lock



- Connect lock PSU positive to Relay #1 COM.
- Connect Relay #1 NO to lock positive.
- Connect lock negative directly to lock PSU negative.
- Connect REX button to Switch +/- so the reader controls the unlock event.
- For a DC inductive lock, fit a correctly rated suppression diode across the lock.

8. Fail-safe lock



- Connect lock PSU positive to Relay #1 COM.
- Connect Relay #1 NC to lock positive so the magnet is energized while secured.
- Connect lock negative directly to lock PSU negative.
- Coordinate break-glass/fire release so lock power can be removed independently during emergency egress.

7. Commissioning checklist

- Verify reader is powered by only one source: PoE or 12VDC.
- Verify separate lock PSU polarity and voltage before connecting the lock.
- Verify Relay #1 contact selection: NO for fail-secure / NC for fail-safe, unless the project design specifies otherwise.
- Verify flyback diode orientation on DC locks.
- Test REX input at Switch +/- and confirm door unlock timing.
- Test Door Sense / magnetic contact status and door-held-open event behavior.
- Verify network IP, gateway, DNS (if used), HTTPS access and AMS connectivity.
- Verify Wiegand output format and cable shield/grounding where used.
- Test power failure and recovery; test UPS where installed.
- For egress doors, test fire alarm/break-glass release with the responsible life-safety contractor.

8. Troubleshooting & field notes

Symptom	Check
Reader unstable/reboots	Check that the lock is not sharing the reader PSU; verify a stable PoE or 12VDC/2A source.
Lock causes reader fault	Check suppression diode, lock PSU, relay wiring and lock current.
Cannot reach Web UI	Check network link, subnet and IP. Factory baseline is commonly 192.168.1.200; legacy reset units may be .100 or .200.
Door does not unlock	Confirm Relay #1 COM + NO/NC selection and relay timing; test dry-contact state with lock disconnected.
Door status incorrect	Check Door Sense wiring/contact type and supported channel.
Wiegand unreliable	Use shielded non-twisted multi-core cable, common ground, correct D0/D1 and project format; avoid UTP.
Relay #2 unavailable	This back-panel version reserves Relay #2 for doorbell and notes it as not installed.

- **Support knowledgebase link:** IP Reader