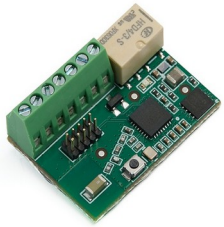
Digiseal Relay Module 3-6V

Single-relay BLE access control for doors, lockers and gates



The Digiseal Relay Module 3-6V adds smart digital-key access to any system that uses a relay output — doors, lockers, cabinets, garage systems, and more. Powered by 3–6 VDC, it integrates seamlessly alongside existing hardware without replacing it. Keys are created, shared, and revoked in real time via the Digiseal mobile app. For remote access, the optional NB-IoT Gateway enables cloud visibility and API-driven key automation.

Technical Specifications	
PCB Dimensions	20.5 × 29.0 mm
Power Supply	3–6 VDC
Relay	Hongfa HFD4-I · DPDT · 2 × (COM / NO / NC) Rated switching (inductive): 2 A · 30 V DC | 1 A · 125 V AC Surge current: 3.5 A · IEC 60335-1 rated · suitable for solenoid/mag-lock loads ⚠ Install flyback diode (e.g. 1N4007) across solenoid coil — cathode to + terminal — to prevent relay damage
Connectivity	Bluetooth 5.1 (BLE); optional NB-IoT Gateway for remote access
Connectors	7-pin screw terminal (2.54 mm): COM · NO · NC · COM · NO · VIN · GND Pole 1 (COM/NO/NC) · Pole 2 (COM/NO): each independently configurable as dry-contact or power pass-through Both poles switch simultaneously — connect two independent actuators to activate with a single relay trigger
Encryption	ECC secp256r1 hardware-bound keys; AES-256 CBC communication
Casing / IP Rating	Determined by customer-selected enclosure; IP65, IP67, IP68 and explosion-proof options available
Operating Temp.	−40 °C to +85 °C
Electrical Consumption	Sleep ~3–5 µA; BLE standby ~0.2–0.3 mA; active ~2–3 mA; relay pulse +47 mA
Certifications	Available on request; additional certifications at customer cost

Key Features

- Drop-in relay integration — works with any existing lock hardware
- Hardware-bound private key, never leaves the chip
- Full offline operation via Bluetooth — no internet required
- Time-limited and one-time key sharing via QR code or cloud
- Remote access and monitoring via optional NB-IoT Gateway
- Biometric authentication supported on mobile app (Face ID / fingerprint)
- API integration for workflow-driven key issuance and revocation

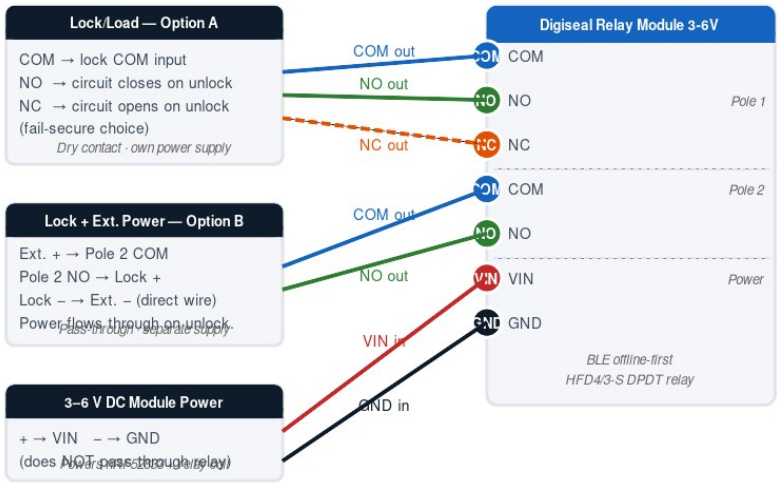
Applications

- Office doors and commercial entrances
- Lockers and secure cabinets
- Garage doors and vehicle barriers
- Self-storage units
- Short-term rental and shared workspace access

Connection Diagram — Signal Contact (Dry Contact)

Digiseal Relay Module 3-6V — Connection Diagram

DPDT relay · 7-pin terminal on left edge: COM · NO · NC · COM · NO · VIN · GND



Wiring Options

Option A — Dry contact:
Lock has its own power supply.
Use Pole 1: COM + NO or NC.
NO = fail-open (unlocks on power loss)
NC = fail-secure (locks on power loss)

Option B — Power pass-through:
Ext. supply (+) → Pole 2 COM.
Pole 2 NO → Lock (+).
On unlock: power flows to lock.

Relay Ratings — HFD4-I (per pole)

Inductive: 2 A · 30 V DC
1 A · 125 V AC
Surge current: 3.5 A
IEC 60335-1 rated
Suitable for solenoid/mag-lock loads

REQUIRED: fit flyback diode (e.g. 1N4007) across solenoid coil, cathode to + terminal — prevents relay damage.

Legend

COM (in/out) · NO out — Normally Open · NC out — Normally Closed (dashed) · Power input + · GND input – · Arrow direction = current / signal flow

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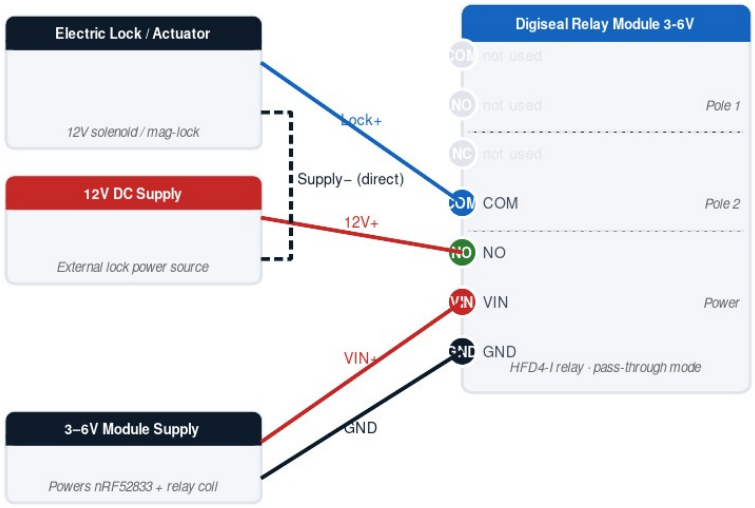
Connection Diagram — Power Pass-Through

Digiseal Relay Module 3-6V — Power Pass-Through Wiring

Pole 2: NO (12V+ in) → relay contact → COM (Lock+) · Lock– returns direct to supply



How it works

12V+ enters via Pole 2 NO.
On valid BLE key: relay fires,
NO connects to COM,
12V+ reaches lock via COM.
Lock– returns directly to
supply– (not via module).

Pole 1 (COM/NO/NC) not used
in this wiring configuration.

REQUIRED: fit flyback diode
(e.g. 1N4007) across lock
coil, cathode to + terminal
— prevents relay damage.

Relay — HFD4-I (per pole)

Inductive: 2 A · 30 V DC
1 A · 125 V AC
Surge current: 3.5 A
IEC 60335-1 rated

Legend — 12V+ supply input — COM — switched 12V+ output to lock — Supply– / GND (dashed = direct bypass)

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