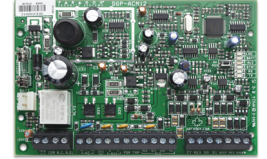


# ACM12

## Installation Manual V4.5 and higher

Supports EVOHD / EVO192 V4.5 and higher



### Description

Thank you for choosing the ACM12 for your access control. The ACM12 is designed to be used with the Paradox EVO system. It allows you to manage access of one door, via card, pin or both, provide forced door and door left open detection, and arm / disarm functions. The ACM12 supports full Off-Line functionality, which stores the entire database in memory when the panel connection is lost and enables full synchronization upon restore. It supports one IN reader and one OUT reader if using 4-wire Paradox readers, or one IN reader only if using the 7-wire 26-bit Wiegand reader. The ACM12 also supports a REX, a door contact that can be an alarm zone, and a door locking device.

With accelerated response of up to 999 users, simple and minimal programming, as well as easy installation, the ACM12 is designed to provide you with a reliable and professional access solution.

### Compatibility

ACM12 V4.5 and higher is compatible only with panels EVOHD V4.5 and higher and EVO192 V4.5 and higher.

### Upgrade Note

When upgrading to the latest version, it is advisable to upgrade the panel first, and then upgrade the ACM12 module.

### Off-Line Feature

The ACM12 V4.5 fully supports Off-Line functionality. In the case of panel connection loss, the ACM12 will switch to Off-Line mode and will fully function with user access level and schedules; arm / disarm user permissions will be overridden. While resuming communications with the panel, all programming changes will be updated. In Off-Line mode, events are kept locally in the module and can be uploaded manually for each ACM12 when communication is restored.

### Installation (Figure 1)

Connect the ACM12 as per the drawing below. When powering up, all ACM12 modules will synchronize with the panel and upload all user and schedule data. Typically, 100 users and 10 schedules will take about 50 seconds to upload. This will also take place upon resuming connection with the panel. Synchronization is indicated by RX/TX LEDs flashing together at 4 Hz. If an ACM12 V4.5 detects a connection to a different EVO panel, data will be erased and the new panel data will be synchronized.

**POWER:** The ACM12 should be powered with a 16 Vac 20Va. Battery should be connected.

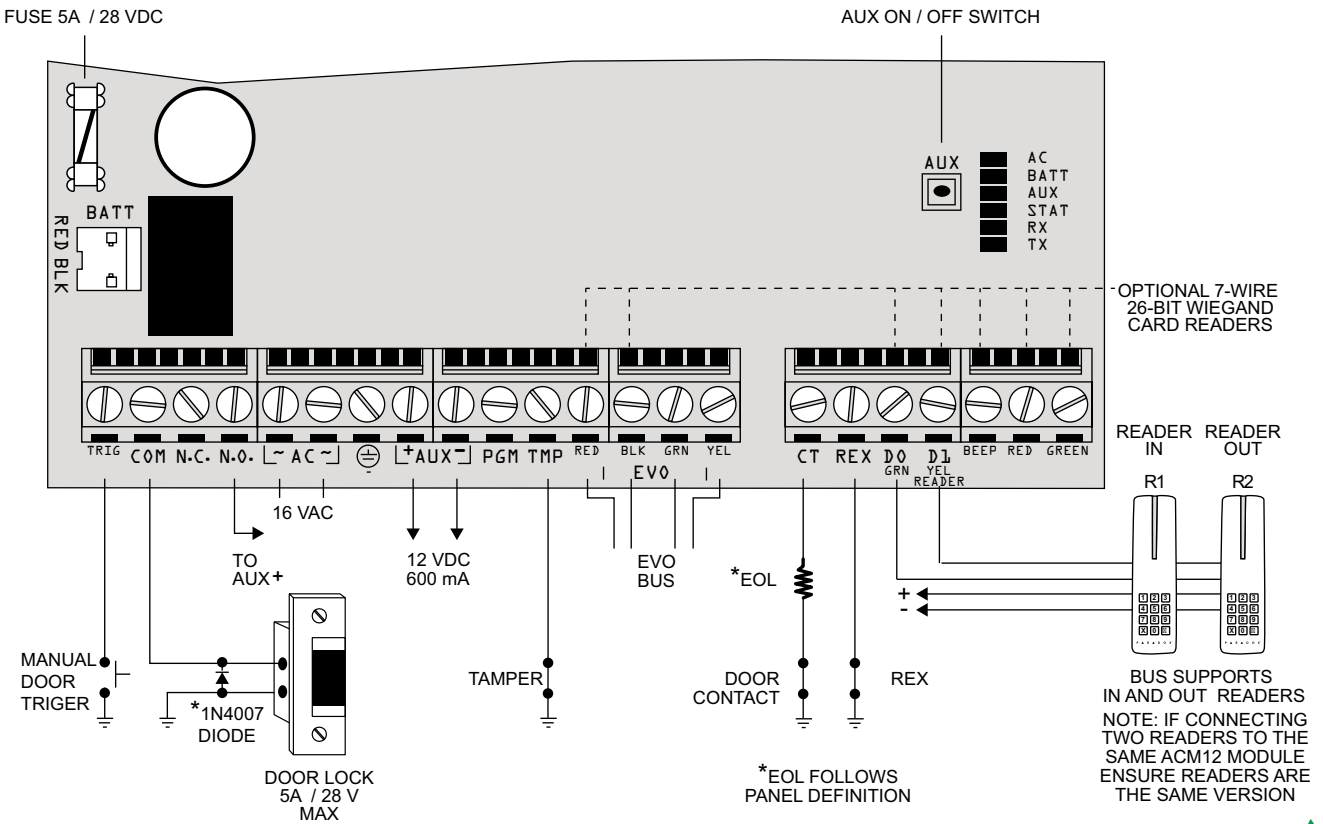



Figure 1



**Unlock Device Diode:** When connecting a locking device, it is recommended to connect diode 1N4007 as per Figure 1, to keep the relay contacts reliability.

**Firmware Upgrade:** Should you need to upgrade the ACM12 firmware, connect the CV4USB A+ to Green and B- to Yellow, and power Red and Black.

| Connection  | Description   | Connection | Description  |
|---|---|------------|--|
| TRIG  | Shorting to ground will activate the unlock relay.  | TMP        | Tamper switch follow panel definition Section [3034] ACM12 programming section [003] option1 to enable.              |
| COM/NC/NO   | Unlocking relay, max 5A / 28 VDC<br>AC - 16V 20 VAC   | EVO BUS    | Connect to EVO bus.  |
|  | Additional Aux (-)  | CT         | Zone for door contact. Can be system zone Section [0400], EOL will follow panel global EOL panel section 3033 bit 7. |
| AUX   | Use to power the Reader, REX, and other devices. Max output 600mA, fuseless shutdown.                 | REX        | Request for exit detector connection, it is connected without EOL.   |
| PGM   | 50mA output follow. Some predefined conditions, see programming Section [011].                        | D0         | Connect to Green wire of the Reader.   |
| CT  | Door contact is used to monitor door condition and to identify door left open and forced door status. | D1         | Connect to Yellow wire of Reader.  |

### Turning Auxiliary Power ON / OFF (V4.52 and above)

Press and hold the AUX ON / OFF switch for 7 seconds. This toggles the auxiliary power ON or OFF.

### IN / OUT Reader Assignment (V4.52 and above)

The reader that is detected first will be considered the IN reader, by default. The reader that is detected second will be considered the OUT reader.

### Changing the Default Reader Assignment (V4.52 and above)

1. Press and hold the AUX ON / OFF switch for 3 seconds. The ERROR, TX and RX LEDs flash for 2-3 seconds.
2. Press any key or present an access card to the reader you want to designate as the IN reader. Automatically, the other reader will be designated as the OUT reader.

### Programming via BabyWare or Keypad

Installer + Section [4003] + Serial Number of the ACM12.

\* = Default

| Section [001] General Options |  |                  |                 |
|-------------------------------|--|------------------|-----------------|
| Option                        |  | OFF              | ON              |
| [1]                           | Tamper Input   | <b>Disabled*</b> | Enabled         |
| [2]                           | Battery Charging Current                                   | <b>350mA*</b>    | 850mA           |
| [3]                           | AC monitoring  | Disabled         | <b>Enabled*</b> |
| [4] & [5]                     |  | [4]              | [5]             |
|                               | Card only  | <b>OFF*</b>      | <b>OFF*</b>     |
|                               | Card or PIN  | ON               | OFF             |
|                               | Arm and Access: Card or PIN<br>Disarm: Card <b>and</b> PIN | OFF              | ON              |
|                               | Card and PIN always  | ON               | ON              |
| [6]                           | Unlock door on Fire Alarm                                  | Disabled         | <b>Enabled*</b> |
| [7]                           | Door forced open Alarm                                     | <b>Disabled*</b> | Enabled         |
| [8]                           | Card activates door unlocked schedule (V4.52 and above)    | Disabled         | <b>Enabled*</b> |

| Section | Data               | Description                                   | Default |
|---------|--------------------|---|---------|
| [002]   | __/__/__ (Seconds) | Door Unlocked Period                          | 005     |
| [003]   | __/__/__ (Seconds) | Door Unlocked Period Extension (handicap use) | 015     |
| [004]   | __/__/__ (Seconds) | Door Left Open warning delay                  | 060     |
| [005]   | __/__/__ (Seconds) | Door Left Open Alarm delay from warning       | 060     |
| [006]   | __/__/__ (Minutes) | Safe Unlock delay                             | 00      |
| *[007]  | __/__/__ (01 - 32) | 1 <sup>st</sup> Unlock Door Schedule          | 00      |
| *[008]  | __/__/__ (01 - 32) | 2 <sup>nd</sup> Unlock Door Schedule          | 00      |
| *[009]  | __/__/__ (01 - 32) | 3 <sup>rd</sup> Unlock Door Schedule          | 00      |
| *[010]  | __/__/__ (01 - 32) | 4 <sup>th</sup> Unlock Door Schedule          | 00      |

\* Follow Panel User Schedules.

| Section   | Data | Description    | Default |
|---|------|----------------|---------|
| [011]   | __/_ | PGM Activation | 00      |
| 00 : Arm<br>01 : Follow Door Unlock Schedule<br>02 : Follow Access Granted (will be activated for the unlock period)<br>03 : Follow Door Forced State<br>04 : Follow Door Left Open Warning / Alarm<br>05 : Follow access user #999<br>06 – 99 : Future Use |      |                |         |

| Section [012] |             |                  |                 |
|---------------|-------------|------------------|-----------------|
| Option        |             | OFF              | ON              |
| [1]           | Partition 1 | Disabled         | <b>Enabled*</b> |
| [2]           | Partition 2 | <b>Disabled*</b> | Enabled         |
| [3]           | Partition 3 | <b>Disabled*</b> | Enabled         |
| [4]           | Partition 4 | <b>Disabled*</b> | Enabled         |
| [5]           | Partition 5 | <b>Disabled*</b> | Enabled         |
| [6]           | Partition 6 | <b>Disabled*</b> | Enabled         |
| [7]           | Partition 7 | <b>Disabled*</b> | Enabled         |
| [8]           | Partition 8 | <b>Disabled*</b> | Enabled         |

## LED Feedback

|      |   |
|------|---|
| AC   | On (Green) when module has AC power.  |
| BATT | On (Green) when charging and during battery tests. Battery test every one minute. |
| AUX  | On (Yellow) when auxiliary output is active.                                      |
| STAT | On or flash (Red) when an error occurs. Refer to Error Display table below.       |
| RX   | Flashes (Green) when receiving information from the panel.                        |
| TX   | Flashes (Green) when transmitting information to the panel.                       |

\* RX / TX will flash together at a frequency of 4Hz when synchronization takes place.

## Error Display

| STAT (Red) | RX (Green) | TX (Green) | Condition  |
|------------|------------|------------|--|
| ON         | OFF        | OFF        | EVO bus is shorted / No clock / No data (offline)                                |
| ON         | OFF        | ON         | Wrong data / Invalid EVO address, too many modules or incompatible panel version |
| ON         | ON         | ON         | EVO bus YEL and GRN reversed   |
| FLASH      | ----       | ----       | EVO bus voltage is low (less than 9V)  |

## Technical Specifications

|                             |  |
|-----------------------------|--|
| User Capacity               | 999  |
| Door Unlock Schedules       | 4 (total of 8 periods)   |
| User Schedules Capacity     | 32   |
| User Security Levels        | 15   |
| Power                       | 16 Vac, 20 VA  |
| Auxiliary Output            | 12 Vdc, 600 mA, 1A fuseless shutdown   |
| Battery                     | 12 Vdc, Gel Cell. Connection protected with 5A fuse  |
| Door Unlock                 | Form C relay rated at 5A / 28 Vdc  |
| PGM Output                  | 50 mA predefined definitions   |
| Device Connections          | Two Paradox 4-wire readers or one 7-wire 26-bit Wiegand reader, door contact, REX device, tamper |
| Manual Unlock               | Negative trigger input   |
| Control Panel Compatibility | EVOHD Control Panel V4.5 and above<br>EVO192 Control Panel V4.5 and above                        |
| Metal Box (optional)        | Minimum 20 x 25.5 x 7.6 cm<br>(8 x 10 x 3 in.) metal box   |
| Dimensions                  | 14 x 9.2 x 2.5 cm (5.5 x 3.6 x 1 in.)  |

### Warranty

Please refer to the Limited Warranty Statement found on the website [www.paradox.com](http://www.paradox.com) or contact your local distributor.

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### Patents

One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, and RE39406 and other pending patents may apply. Canadian and international patents may also apply.