D-AXS

Destination Access Control Device

User Manual

Version 1.0

www.ultimatrue.com

ULTIMATRUE
ENGINEERING INDUSTRIES

Table of Contents

List of Tables and Figures:

1.0   General Description

The D-AXS is an elevator destination access control device that is fully designed and manufactured at Ultimatrue Engineering Industries. The D-AXS is a custom-based embedded system proximity reader that works with RFID technology supporting 13.56 MHz smart card/fob format.
The D-AXS is basically designed for offering various types of call registration and access destination control that cater to the requirements of commercial, administrative, and residential buildings, enabling full control by restricting passengers' access and destination on certain floors by allocating the tags of each unit or apartment to reach specific floors with a maximum of 9 floors.
The D-AXS device supports an unlimited number of users, enabling the addition or removal of users using the associated wireless IR remote control through program codes. The D-AXS device provides various software programs for both administrative and user functionalities.

Ultimatrue Engineering Industries is certified ISO 9001:2015 and ISO 45001:2018 company.

1.1   Table of Locations

Pointer	Function
1	Power Supply and NO (Normally Open) Contact of Device Relay
2	Extension Board Communication Socket

Table 1.0 – Device Table of Locations

Figure 1.0 – Device Layout

Note:

Please head over to the Installation and connections section for more information on the individual inputs/outputs.

Pointer	Function
1	Floor Calls Common
2	Power Supply
3	Device Communication Socket

Table 2.0 – Extension Board Table of Locations
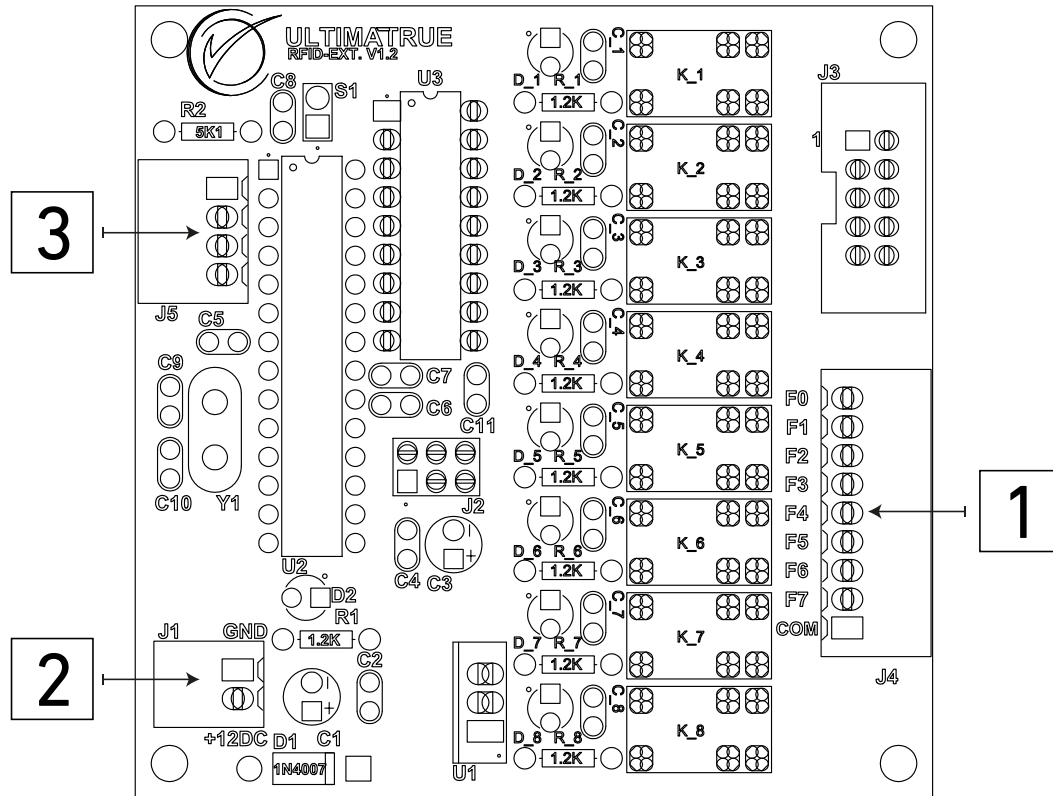
Figure 2.0 – Extension Board Layout
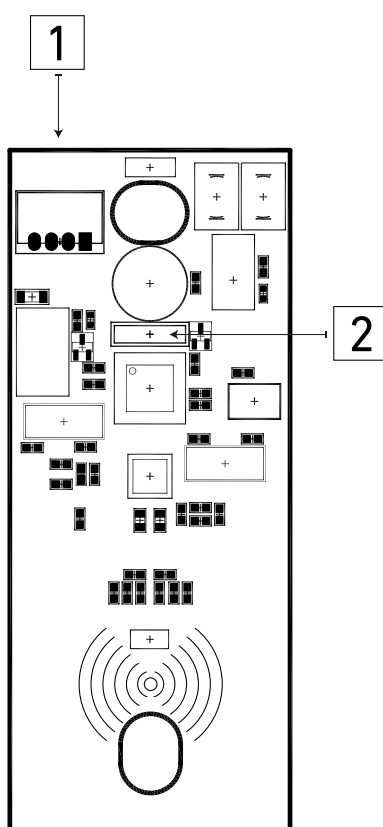
Note:

Please head over to the Installation and connections section for more information on the individual inputs/outputs.

1.2   Safety Precautions

To fully benefit from using the D-AXS please read the user manual carefully before installation and initiating operation. Keep it nearby for future reference whenever necessary.

1.2.1   Transport and Inspection

The device delivered from the factory is ready for installation.

Upon receiving the D-AXS device, please check that the delivered equipment has not been damaged during transport. If any such damage occurs, a claim must be submitted to the carrier immediately.

After unpacking, the following must be checked:

-       The D-AXS device and extension board are not damaged.
-       The D-AXS package is sealed.
-       One extension board is included.
-       One IR remote control should be included.
-       Two RFID master cards should be included.

1.2.2   Storage

The D-AXS device must be stored under cover in a dry and well-ventilated area until it's installed and ready for operation.

1.2.3   Warnings and hazards

Before initiating operations, make sure that all connections, wiring, and board connectors are connected properly.

Warnings and Hazards
Never install the D-AXS device in places subject to rain, direct sunlight, or places with a degree of high dust.
Electricity must be turned OFF during the removal or the installation of the D-AXS device.

Table 3.0 - Warnings and Hazards

2.0 Technical Specifications

2.1 Product Description

Technical Specifications	Description
Board Dimensions	119 mm * 54 mm * 23 mm
Supply Voltage	12V DC
Operating Current	$I \leq 100$ mA
Operating Distance	0-to-5 cm (Depending on tag/card type)
On-Delay Timer	3-to-99 s
Operating Temperature	10° C - 45° C
Storage Temperature	10° C - 60° C
Output Type	Free contact relay (2A/24V DC)
Device Type	Standalone
Device Capacity	Unlimited number of users (tags/cards)
Device Compatibility	A tag/card accesses up to ten D-AXS devices
Device Indicator Types	LED and Buzzer
Product Components	Two RFID Master cards, one IR remote control, and one extension board
Tags/Cards Standards	ISO 14443A Mifare - 13.56 MHz

Table 4.0 - Product Description

2.2   Basic Settings

Number	Basic Settings
1	All connections and terminals must be connected properly before initiating operations.
2	The device installer must be a qualified individual to guarantee safety and prevent any undesirable outcomes.
3	The operating voltage of the D-AXS must not be less than 12V DC.

Table 5.0 – Basic Settings

3.0   Installation and connections

The terminals of the D-AXS device and extension board are connected as illustrated in Figure 3.0.

-   Figure 3.0 illustrates the connection of the D-AXS device and the D-AXS extension board with the COP (Car Operating Panel).

-   The +12V terminal of the D-AXS device and the +12V terminal of the D-AXS extension board are connected through the positive external bridge terminal (+12V).

-   The GND terminal of the D-AXS device and the GND terminal of the D-AXS extension board are connected through the negative external bridge terminal (-12V).

-   The CCM (Car Calls Common) terminal of the elevator control board in the main control panel is connected to the COM terminal of both the D-AXS device and the D-AXS extension board.

-   The NO (Normally Open) terminal of the relay on the D-AXS device is used as a common for the ground call floor, which should be connected to the proper point on the push button.

-   The F0-to-F7 output terminals on the D-AXS extension board are used as common terminals allocated to the rest of the floors, so that each output is connected to the common terminal of its respective floor push button.

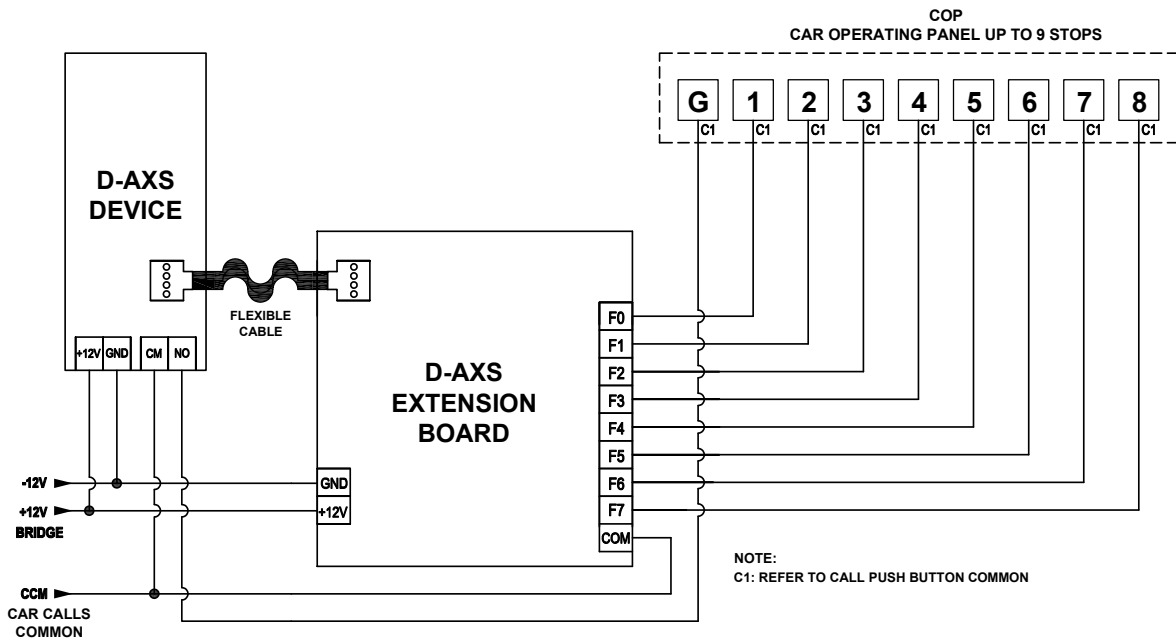**Figure 3.0 - Installation and Connections**

Figure 4.0 represents an illustration of connecting the D-AXS extension board`s additional outputs with the call push button.
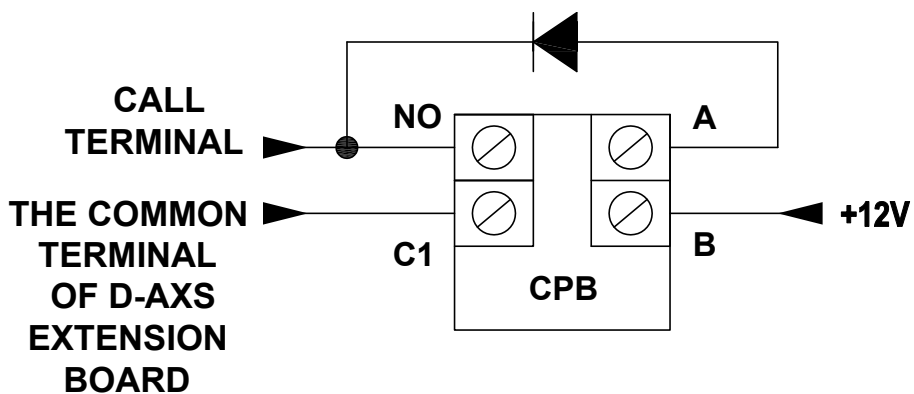

Figure 4.0 - Extension Board and CPB (Call Push Button) Connections

4.0   General Programs

The D-AXS device will automatically switch to the programming mode when the master card is passed on, the LED starts blinking red and green alternately as an indicator. To proceed to the programming modes, the designated IR remote control is required.

4.1   Program P1: Standby Mode

This program facilitates relay activation in Standby Mode.

- Pass the registered tag/card over the D-AXS device in standby mode.

- The D-AXS device's LED blinks green to indicate the detection of a registered tag/card.

- The buzzer sound is generated after passing the registered tag/card.

- The device activates the corresponding relay of the allocated floor on the extension board and connects the COM (Calls Common) to the CPB (Call Push Button) of the required floor, otherwise, the D-AXS device's red LED switches ON.

4.2   Program P2: Allocation of Users

This program facilitates the addition of users through their allocation of tags/cards. The users are allocated tags/cards based on both their floor number and unit number. An infinite number of tags/cards can be registered for each separate floor and unit.

- Pass the master card over the D-AXS device to enter the program mode.

- Insert the Allocation of Users program code using the designated IR remote control.

> * 1 * [Floor Number] [Unit Number] #

- The D-AXS device's LED blinks green to indicate the activation of allocating the unit to its designated floor.

- Pass the number of tags/cards required for the allocation of the specific unit.

- The buzzer sound is generated after passing each tag/card.

- Press 'OK' on the designated IR remote control to save and select another program.

- Pass the master card to exit and return to Standby mode.

Note:

Table 6.0 illustrates the allocation program codes for each floor and their respective unit or apartment numbers, in correspondence to the output of the extension board.

-       The Floor Number implies the corresponding floor number from floors 0-to-7 (F0-to-F7) on the extension board.

-       The Unit Number implies the corresponding unit, apartment, or office from 1-to-9.

Extension Board Outputs	Allocation Program Codes
F0	* 1 * 0 [Unit Number] #
F1	* 1 * 1 [Unit Number] #
F2	* 1 * 2 [Unit Number] #
F3	* 1 * 3 [Unit Number] #
F4	* 1 * 4 [Unit Number] #
F5	* 1 * 5 [Unit Number] #
F6	* 1 * 6 [Unit Number] #
F7	* 1 * 7 [Unit Number] #

Table 6.0 - Allocation Program Codes

4.3   Program P3: Deallocation of Users

This program facilitates the removal of users through their deallocation of tags/cards. The users are deallocated tags/cards based on both their floor number and unit number, without the need of passing tags/cards over the D-AXS device.

-   Pass the master card over the D-AXS device to enter the programming mode.

-   Insert the Deallocation of Users program code using the designated IR remote control.

* 0 * [Floor Number] [Unit Number] #

-   The D-AXS device's LED blinks red to indicate the deactivation of the specific unit on its designated floor.

-   Press 'OK' on the designated IR remote control to save and select another program.

-   Pass the master card to exit and return to Standby mode.

Note:

Table 7.0 illustrates the deallocation program codes for each floor and their respective unit or apartment numbers, in correspondence to the output of the extension board.

- The Floor Number implies the corresponding floor number from floors 0-to-7 (F0-to-F7) on the extension board.

- The Unit Number implies the corresponding unit, apartment, or office from 1-to-9.

Extension Board Outputs	Deallocation Program Codes
F0	* 0 * 0 [Unit Number] #
F1	* 0 * 1 [Unit Number] #
F2	* 0 * 2 [Unit Number] #
F3	* 0 * 3 [Unit Number] #
F4	* 0 * 4 [Unit Number] #
F5	* 0 * 5 [Unit Number] #
F6	* 0 * 6 [Unit Number] #
F7	* 0 * 7 [Unit Number] #

Table 7.0 - Deallocation Program Codes

4.4   Program P4: Reallocation of Users

This program facilitates the reallocation of removed users through their designated tags/cards. The users are reallocated tags/cards based on both their floor number and unit number without requiring to repeat tag/card allocation processes.

-    Pass the master card over the D-AXS device to enter the programming mode.

-    Insert the Allocation of Users program code using the designated IR remote control.

> * 1 * [Floor Number] [Unit Number] #

-    The D-AXS device's LED blinks green to indicate the reallocation of the specific unit on the designated floor.

-    Press 'OK' on the designated IR remote control to save and select another program.

-    Pass the master card to exit and return to Standby mode.

4.5   Program P5: Allocation of Administrators

This program facilitates the addition of administrators through their allocation of tags/cards. The administrators are allocated tags/cards that can access all floors and facilitate access for users.

- Pass the master card over the D-AXS device to enter the programming mode.

- Insert the Allocation of Administrators program code using the designated IR remote control.

<div style="border:1px solid #000; text-align:center; padding:10px;">

* 1 * 255 #

</div>

- The D-AXS device's LED blinks green to indicate the allocation of the tag/card as an administrator.

- Pass the number of tags/cards required for allocation as administrators.

- The buzzer sound is generated after passing each tag/card.

- Press 'OK' on the designated IR remote control to save and select another program.

- Pass the master card to exit and return to the Standby mode.

4.6   Program P6: On-Delay Timer

This program facilitates the relay operating time. The On-Delay Timer can be adjusted from 3-to-99 seconds.

- Pass the master card over the AXS device to enter the programming mode.

- Insert the On-Delay Timer program code using the designated IR remote control.

* 2 * [Time in Seconds] #

- Press 'OK' on the designated IR remote control to save and select another program.

- Pass the master card to exit and return to Standby mode.

4.7   Program P7: Deactivation Mode

This program deactivates all tags / cards registered on the device.

-   Pass the master card over the D-AXS device to enter the programming
    mode.

-   Insert the deactivation program code program code using the signated
    IR remote control.

```
* 3 * 33 #
```

-   Press 'OK' on the designated IR remote control to save and select
    another program.

-   Pass the master card to exit and return to the Standby mode.

Note:

To reactivate the tags/cards again, each unit should be activated in each
floor separately, using the following program code:

```
* 1 * [Floor Number] [Unit Number] #
```

5.0   Disclaimer

The manufacturer shall have no obligation for damage, injury, or any legal responsibility incurred directly or indirectly from the use of any of the products. The user shall observe safe and lawful practices including, but not limited to, those set forth in this document. Should further information be desired or should particular obstacles arise which are not specifically covered for the client's purposes, the matter should be referred to Ultimatrue Engineering Industries.

Ultimatrue Engineering Industries reserves the right to make technical changes or modify the contents of this document without prior notification. With regard to purchase orders, the agreed particulars shall prevail. Ultimatrue Engineering Industries does not accept any responsibility for possible lack of information in this document.

Ultimatrue Engineering Industries reserves all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties, or utilization of its content - in whole or in part - is forbidden without the prior consent of Ultimatrue Engineering Industries.

© Copyright 2023 Ultimatrue Engineering Industries.

All rights reserved.

6.0   Warranty

Ultimatrue Engineering Industries warrants D-AXS elevator access control device against all manufacturing defects for a period of one year after the date of installation and operation, provided that the user strictly adheres to all technical specifications and instructions illustrated in the user manual. The Warranty is not valid in the following cases:

1.   Defects caused by failures or mistakes in the D-AXS device installations and onnections.

2.   Defects caused by high or low voltage.

3.   Defects caused by misuse and non-compliance with the illustrated operating instructions in the user manual.

4.   Defects caused by intended damages or fire.

Index:

C

Card 3, 6, 8, 12-13, 15, 17-20.

D

D-AXS 3, 6-20, 22.

I

IR Remote Control 3, 6, 8, 12-13, 15, 17-20.

L

LED 8. 12-13, 15, 17-18.

P

Program Code 3, 13-16.

R

Relay 4, 8, 10, 12, 19.
RFID 3, 6.

T

Tag 3, 6, 8, 12-13, 15, 17-20.

As standards, specifications, and design vary over periods of time, please ask for confirmation of the information provided in this publication.

D-AXS – Version 2.0.