

ASSAMBLY AND PROGRAMMING MANUAL FOR THE AUTONOMOUS INS-ACC PROXIMITY KEY FOB AND CARD READER

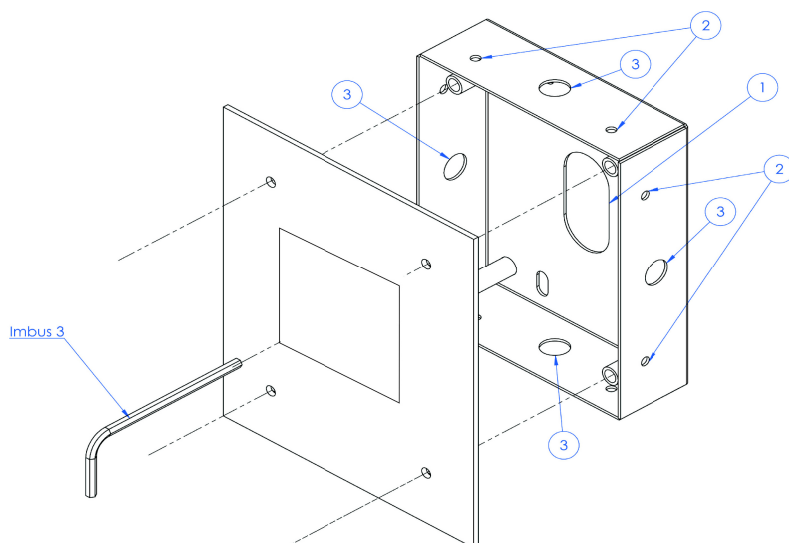


INS –ACC is an autonomous microprocessor proximity key fob and cards reader in the RFID Unique 125kHz standard. The device serves the purpose of controlling one, or independently two outputs by means of appropriate cards (or pendants) assigned to a given output. The outputs may be controlled by means of external devices, e.g. an electric door strike. INS-ACC serves maximum 1530 cards, assigned on the basis of the same principle as in the case of other ACO products (e.g. ACC modules for the CDN doorphone systems, Inspiro doorphone system). The reader enables simple addition of cards by means of the “Master” card (without connection to the computer) or advanced addition and management of cards by means of an appropriate computer software („ACC_v3.x”) downloadable free of charge from www.support.aco.com.pl (a CDN-USB cable is required to connect the reader with a computer, which must be purchased separately).

INS-ACC is provided with a built-in display, which may show the ordinal numbers of cards, and signals the activity of the output – opening of the door (information for the persons with hearing impairment).

On top of this it is equipped with the sound signalling (which may be switched off), also informing about the activity of the output – door opening (information for the people having failing eye-sight).

1. INSTALLATION



The base of the reader is flush-mounted and fixed by means of expansion bolts. The wires are put through hole 1. The reader is connected according to schedule placed in the further part of the manual. The enclosure is locked using the Allen key with the size of 3, by means of 4 screws. Holes No. 2 serve the purpose of temporary installation of the reader by means of e.g. nails, in case of placing the device in soft materials, e.g. polystyrene. Holes No. 3 facilitate the installation in case of using the assembly foam.

The reader can also be surface mounted using a surface-mounted box, which must be purchased separately (trade number: INS-P-XS NT).

Installation two readers

When mounting two readers in close to each other, such as on two sides of an entrance, keep a min. 15cm distance between one reader and the other. A smaller distance may cause interference and malfunction of the devices.

2. METHOD OF OPERATION

The reader can work completely autonomously. The basic mode enables the addition of cards by means of the Master card (this is the first card introduced into the reader). In this case, in a simple manner and at any moment we can add other cards, which typically activate only the first output (the card is added into the following empty position, counting from the card already entered into the highest position). Without the help of the computer programme, there is no possibility to remove the respective cards, activate the second output and change other settings. We can only change the time of activity of output 1 (see "Programming of the reader settings"). If there is a need to remove the card or cards without the help of the computer in this mode, we have to perform a complete "reset", which will delete all the cards from the memory.

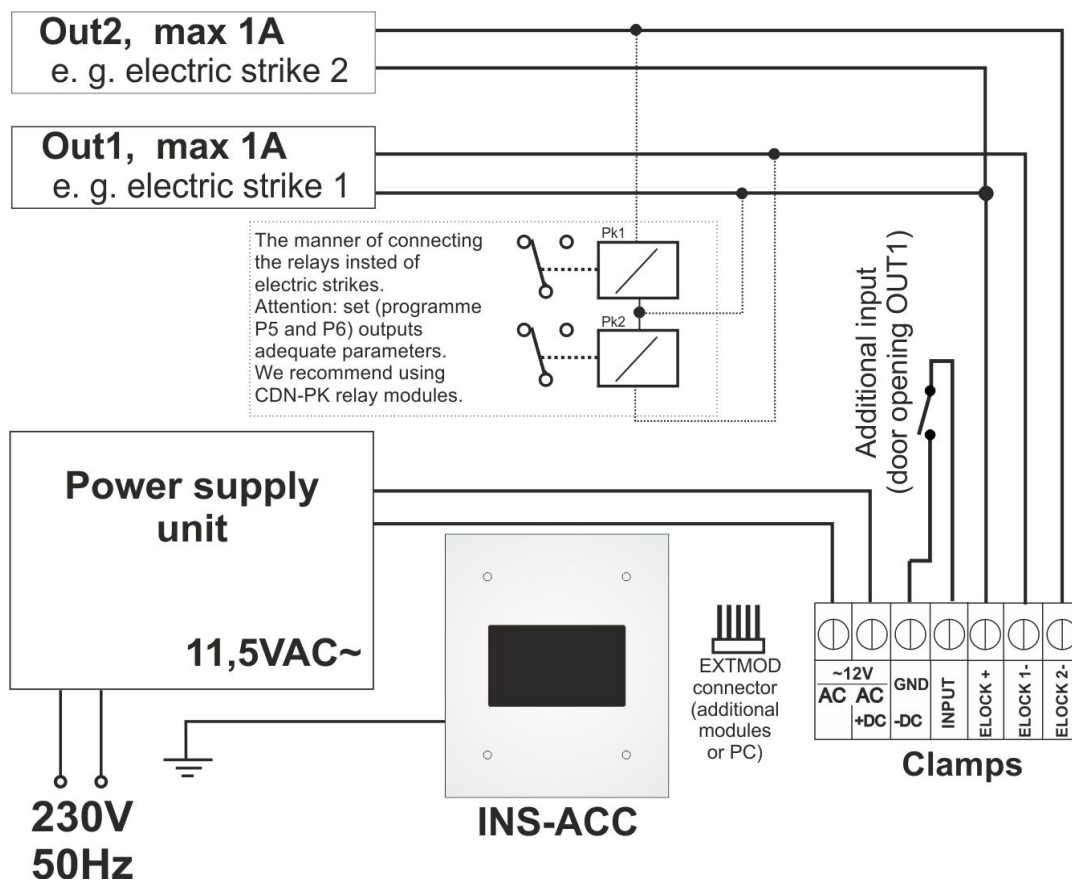
The more advanced functions are available in the extended mode, after connecting the reader to the computer by means of a special CDN-USB cable. In this case, using an appropriate software (available free-of-charge on the website: www.support.aco.com.pl), we have a possibility to add, remove any cards (not necessarily maintaining their order), assign them to one or two outputs and set other parameters such as the activity times of the respective outputs, the display of the ordinal number of the card, the method of switching the output to ground (via a pulse/on a permanent basis) and the activation and deactivation of the sound signal during the output activity (during the opening procedure). In this mode, there is also a possibility to add cards by means of the Master card, maintaining the same principle as in the basic mode: the card is added into the consecutive position, counting from the card already entered in the highest position.

Output 2 is switched off by the manufacturer (the time of its activity is set to "0" seconds), which causes all the cards to activate only output 1. In case of setting the time value other than zero, the following principle will be realised both in the basic mode and in the extended mode: the cards assigned to the uneven numbers of cells (1-255) always activate output 1, and those assigned to the even numbers of cells (0-254) always activate output 2. The time of activity of both outputs may be changes independently within the range of 1s - 10s, whereby the activity time of the first output may be changed by means of the "reset" button, without the necessity of connecting the computer (see the "Programming of the reader settings"), and the activity time of the second output may be set only by means of the computer.

The activity time of output 1 is set by the manufacturer to 4s., the activity time of output 2 is set to 0s (deactivated output – all the cards activate output 1), the activated mode of display of the card's ordinal number and the activated sound signalling of the output activity.

The lock is equipped with the IN terminal, which causes activation of **Output 1** while being shorted to ground (GND) by means of an optional push-button. Input is protected against continuous short-circuit.

3. DIAGRAM OF CONNECTIONS



NOTE!

For proper operation and safety of use, the device should be connected to the ground by connecting the "grounding" terminal on the body of the metal mounting frame with a suitable protective installation (PE). The connection between the device and the power supply is recommended using a 1mm² cable (e.g. LY1.0). The length of the cable should not exceed 7m in case of the electric door strike circuit and 15m in case of the power supply circuit. Too little power supply, too small cross-section of wires and too long connections (voltage drops) may cause disturbances in the device's operation (e.g. activation of the reset system and restarting the device, especially when opening the electric lock).

The supply voltage of 11,5V AC should be connected to the 12V~ terminals, while in case of using the DC power supply unit, connect it accordingly: +DC of the power supply unit to the AC terminals (regardless of which one), while -DC to the GND terminals. Connect the electric door strike without a specific polarity to the "ELOCK" and OUT1 or OUT2 terminals.

4. OPERATION OF THE READER

After the power supply is switched on for the first time, the reader will start to signal (periodical beeping) the lack of the Master card, which means that the card, which will automatically become the "Master" card must be brought closer to the reader. The Master card enables simple addition of cards without using the computer. We can also add the "Master" card by means of the computer programme, adding the card into the zero cell on the first position.

The readiness of the reader (the so called stand-by mode) is signalled by flashing of a dot on the display every two seconds. When, at the same time, we bring the card, which was previously added to the reader, closer (even the "Master" card), the appropriate output is activated (output 1 according to the factory settings) with the set time of 4 s, and the reader will enter the so called opening procedure. The opening procedure is signalled optically on the display and by a sound. Additionally, during the first seconds of the opening procedure, the ordinal number of the card is displayed – the first positions mean the cell number (0-99), and the last digit means the ordinal number of the card in the given cell (1-6). For cards entered above the 99th cell, only the cell number is displayed (100-255). The card number display function may be switched off. The details concerning the method of saving the cards in the cells can be found in chapter entitled "Programming by means of the ACC_V3x programme" of this manual. When the activity time of the input is different from zero (set only from the computer), the cards saved in even cells always activate output 2, and those saved in uneven cells always activate output 1.

The addition of the new card by means of the "Master" card

The "Master" card must be brought closer to the reader. When the opening procedure, whose duration depends on the set output activity time, is completed, the dot on the display will light up for a few seconds on a permanent basis. At this time we bring the "Master" card closer to the reader again" the reader will enter the mode of adding the cards, and the display will show the cell number and the card for which the entry will be made. When the new cards are brought closer now, they will be automatically added to the memory. The cards will be saved in the consecutive empty positions, counting from the card already entered in the highest position, e.g. 02, 03, 04, 05, 06, 11, 12, 13, 14, 15, 16, 21, 22...etc., where the last digit means the ordinal number of the card (1-6), and the first digits mean the cell number (1-255) – the Master card is always under position 1. The display of the cells above 99 (100-255) constitutes an exception – in this situation, only the cell number is displayed from 99 to 255 (the ordinal number of the card is not displayed).

When the next card is not brought closer for the purpose of entry for several seconds, the reader will exit the card addition mode, and the word "End" will appear on the display. On the other hand, when we want to add the card which has already been entered, the word "Err" (error) will appear on the display, and the reader will exit the card addition mode. We can add a card or cards, which will be saved in the following empty positions at any moment.

Addition and removal of cards by means of the computer programme:

See chapter "**Programming by means of the ACC_V3x programme**" included in this manual.

5. PROGRAMMING OF READER SETTINGS

The change in the operating parameters of the lock is possible by means of the programming push-button, located at the back of the lock plate (over the terminals) and by means of the appropriate computer software. From the computer level, we have a possibility to programme all the parameters, and with the use of the "Reset" push button, we can only change the activity time of output 1 (e.g. the lock opening time) and delete all the cards from the system and restore the factory settings.

Programming with the use of the "Reset" push-button

The change in the activity time of output 1 (the so called opening time)

During the normal operation of the reader, we push and press the "Reset" button located at the back of the reader plate. The word "EL" and the digit signifying the activity time of output 1 in seconds will appear on the display. The first digit, which will show up, signifies the presently set time. So long as the push-button is pressed, the digits will increase by 1. When the push-button is pressed no longer, the presently displayed value is saved in the memory. The activity time of output 1 can be changed from 1s to 9s.

Programming with the use of the ACC_V3x programme

The reader is connected with the computer by means of the USB cable (CDN-USB).

Note! The order of connection is important in order to not damage the devices. As the priority, we must connect the USB cable to the reader only, then the USB cable must be connected to the computer (during the first connection of the CDN-USB cable to the computer, it is necessary to install controllers downloaded from www.support.aco.com.pl). The last activity involves the activation of the reader's power supply.

After launching the ACC_V3x programme (download the latest version from: www.support.aco.com.pl), in the left upper corner, we can see a rectangle which informs us about the status of the connection: in case of the lack of the CDN-USB cable, the rectangle is red ("no USB cable"), after connecting the USB cable, the rectangle should change the colour into yellow and the phrase "Connected with the INS-ACC module" will appear next to it – in case of lack of the connection with the module (a transmission error or damage), the phrase will remain unchanged: "No connection with the module". When the status of the connection is "Connected with the module...", this means that we can communicate with the module, and push-buttons "Reading from the module", "Save to the module", "Verify with the module" are active. Additionally, only in case of the connection with the autonomous INS-ACC reader, we have the possibility of changing the following parameters:

Time of output 1 – we set the activity time of output 1 in [s] from 1 to 10.

Time of output 2 – we set the activity time of output 2 in [s] from 0 to 10 (when 0 is set, all the cards activate only output 1)

Beeper – we set 1 to switch on or 0 to switch off the Beeper (the sound signal during the activity of the outputs)

Show the card number – we set 1 to switch on or 0 to switch off the display of the ordinal number of the card during the output activity.

On the right side of the programme, there is an "image" of the reader memory. It shows how many cards are in the system and how they are assigned – to which cells (each cell number corresponds to the Premise No. in the CDN / Inspiro doorphone system). In each cell, in other words, the "Premise", (from 0 to 255), it is possible to enter maximum 6 cards (1-6). After clicking the given cell, the ordinal numbers of the cards (1-6) assigned to the given (clicked) cell and physical card numbers, are displayed in the central part of the programme. In order to delete the card, we remove the physical card number or click push-button "Add" – the reader should start to "flash", then we bring the card, which we want to add, closer to the reader, and just after a moment, the physical number of the card should show up in the given field.

We can save the back-up copy of the entered cards and settings in a file, using classic menu "File" in the left upper corner of the programme. Having saved the file, we can open it at any time and restore the back-up copy or upload the same card numbers and settings into other readers operating in the same system (facility).

Resetting the reader – restoration of the factory settings (and removal of cards) or in case of failure:

1. We switch on power supply voltage, 2. We wait for about 10s, 3. We press the "reset" push button at the back of the reader, 4. We switch on power supply, and when we hear a sound signal, we release the push-button.

After this activity, all the cards will be deleted and the factory settings will be restored:

No saved cards in the reader,

Activity time of output 1: 4s

Activity time of output 2: 0s – all the cards activate only output 1

Output activity sound signalling is switched on (during opening)

Display of the ordinal number of cards

6. TECHNICAL PARAMETERS

■ Power supply: 11.5V ± 0.5V AC or 12V-15V DC; 260mA (not including output load)

■ Standby power consumption: ~1W

■ Output load capacity for 10 s – max. 1 A

■ Method of output control: shorting to ground – pulses or on a permanent basis

■ Maximum number of cards/pendants: 1530

■ Standard of card/pendant reading: Unique 125 kHz

Instructions and more information also available on: www.support.aco.com.pl and www.aco.com.pl

IMPORTANT! When disinfecting panels made of stainless steel, use only alcohol-based cleaners. All types of chlorides (which are present in the composition of common cleaners) are harmful to the steel surface, because they abrade its natural protective coating and increase the risk of corrosion marks.

THE RULES OF STORAGE OF THE USED ELECTRICAL EQUIPMENT

It is not allowed to store the electrical equipment with other waste. It must be stored at sites intended for this purpose. Therefore, please address the responsible institutions or companies dealing with waste recycling. – Directive 2002/96/WE dated January 27th, 2003