aco®

USER INSTRUCTION FOR - FAM-PV SERIES DIGITAL VIDEO DOOR ENTRY SYSTEM

IMPORTANT! When disinfecting panels made of stainless steel, use on ly 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.

TECHNICAL PARAMETERS

Power supply: 15V ±10% DC

Power consumption in standby mode: ~2.8W
Power consumption of FAM-PV-2NPZS ACC panel: max. 350mA, without E-lock
Number of proximity key fobs (version with built-in ACC): 192 key fobs
Permitted load on E-lock output: 1A
Front: stainless steel; mounted with 3mm Allen (hexagon) screws
Required space for flush-mounted panel: 286 x 90 mm
Hole size for flush-mounted box (ABS): 269 x 73 x 32mm
Size of the optional PNT2-FAM-PRO/PV surface-mounted box (to be purchased separately): 288.4x92.4x(53/39)

PANEL INSTALLATION AND CONNECTION

The panel should be assembled so as to minimise the impact of adverse weather conditions, in particular water. Make sure that the camera is installed at the desired height. Typically, that height is 1.60 m from the ground. For optimal field of view of the camera, verify the installation location and position of the panel by trial and error. Avoid locations where the camera lens may be exposed to direct, perpendicular, light (from the sun, streetlamps, etc.). Install the flush-mounted back box (or flush-mounted adapted) in the appropriate wall opening, using holes **5** and raw plugs (or screws) as well as gypsum; make sure that the back side of the box flange **A** is flush with the mounting surface. When mounting on a steel pole (similar structure with a maximum wall thickness of 32 mm), use an additional set of gaskets and screws 3 - available as an option. Run the wires through hole **1** in the box base (cut out the cap if larger hole is needed). Use additional holes **4** for makeshift installation with nails etc. when mounting the unit in soft materials such as polystyrene.   Holes **4** also make installation easier when using mounting foam. The cover cap **2** should be cut out in order to install the add-on module in its place. For the best possible tightness, cut out only those holes that are necessary to install the panel. Check the condition of the gasket on box **B**. Cracks, deformations and soiling of the gasket may lead to loss of tightness.

Allen wrench
3 mm
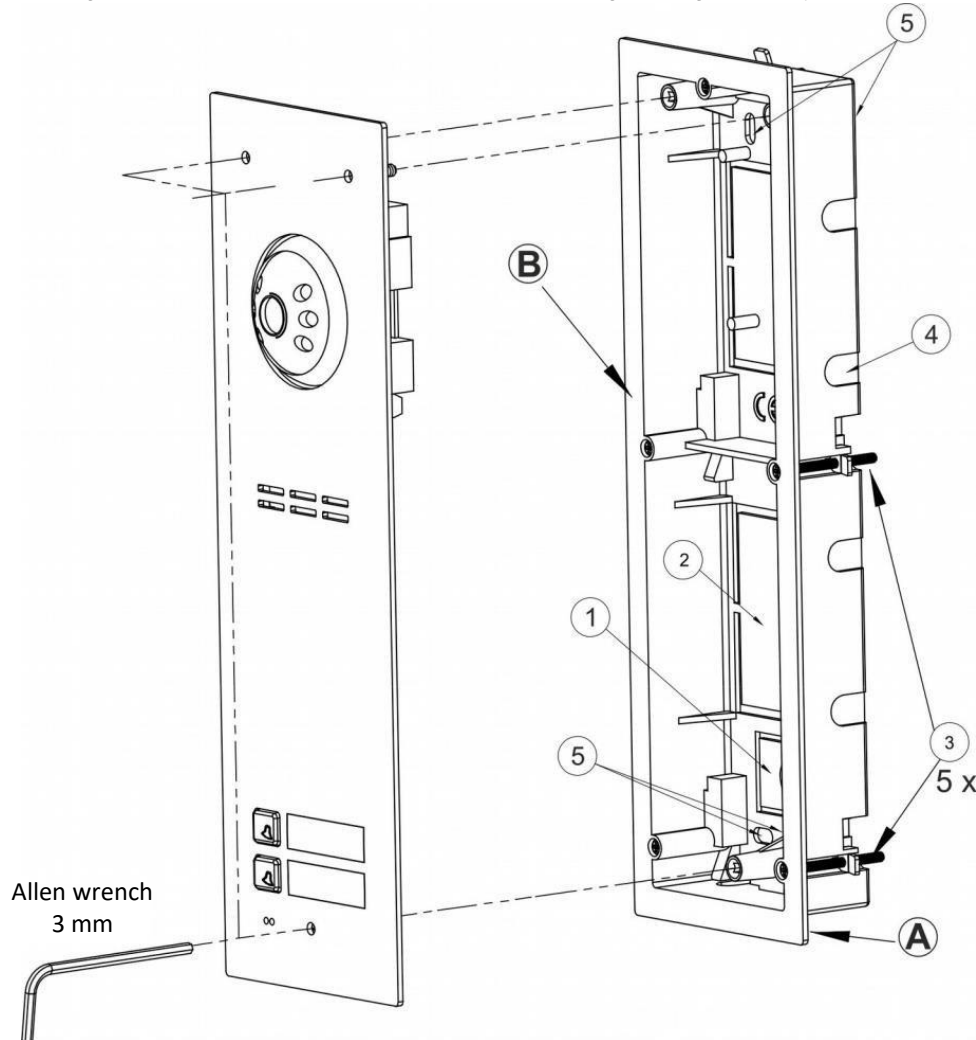
NOTE! For proper operation and to ensure safety of use, the door entry panel should be connected to grounding by connecting the "grounding" terminal on the body to the appropriate protective installation (PE). It is recommended to use DC power supplies (+15VDC), which have terminals for connecting PE wire. This eliminates interference (buzzing) in the audio path, especially in the hands-free receivers, and enables trouble-free operation of the entire system. If the power supply does not have a PE connector, you can buy the MOD-PE-GND module from the Aco offer, which allows you to connect the PE wire to the door entry system.

Connection between control panel and electric door strike and power supply is recommended using cable with cross-section 1 mm2 (e.g. LY1,0). Cable length should not exceed approx. 7m for an electric door strike circuit and approx. 30m for a power supply circuit! Insufficient power supply, too small cable cross-section and too long connections (voltage drops) may result in device operation interference (e.g. audio track interference: so called "buzzing" or activation of the reset system and device restarting, more so during electric lock opening). The 15V DC supply voltage is connected to the +DC (+ELOCK) and -DC (GND) terminals. When using a reversing electric strike, change the panel settings and put on jumper Z1 (if present). When using reversing electric strike, 15V DC voltage appears on "ELOCK" output - use appropriate reversing electric strike. You can also use MOD-DC-12V module which will provide 12V DC to reversing electric door strike.

Monitor bus (UTP cable) is connected to individual terminals of the panel, according to the scheme and colors of twisted pair cable (T568B standard). Before switching on the power make sure that there are no short circuits between wires and that the wires have a passage, are properly connected to the RJ45 connector.

Maximum length of signal cables (bus) depends on cross-section of wires responsible for audio path (LINE terminals). For typical cable cross-sections (0.5mm) this distance is up to 300m. In case of using larger cross-sections, it is possible to increase the length of the bus: - using 1 mm^2 wire we can increase the distance to 400 m - using 1.5 mm^2 wire we can increase the distance to 600 m - using 2.5 mm^2 wire we can increase the distance to 1000 m
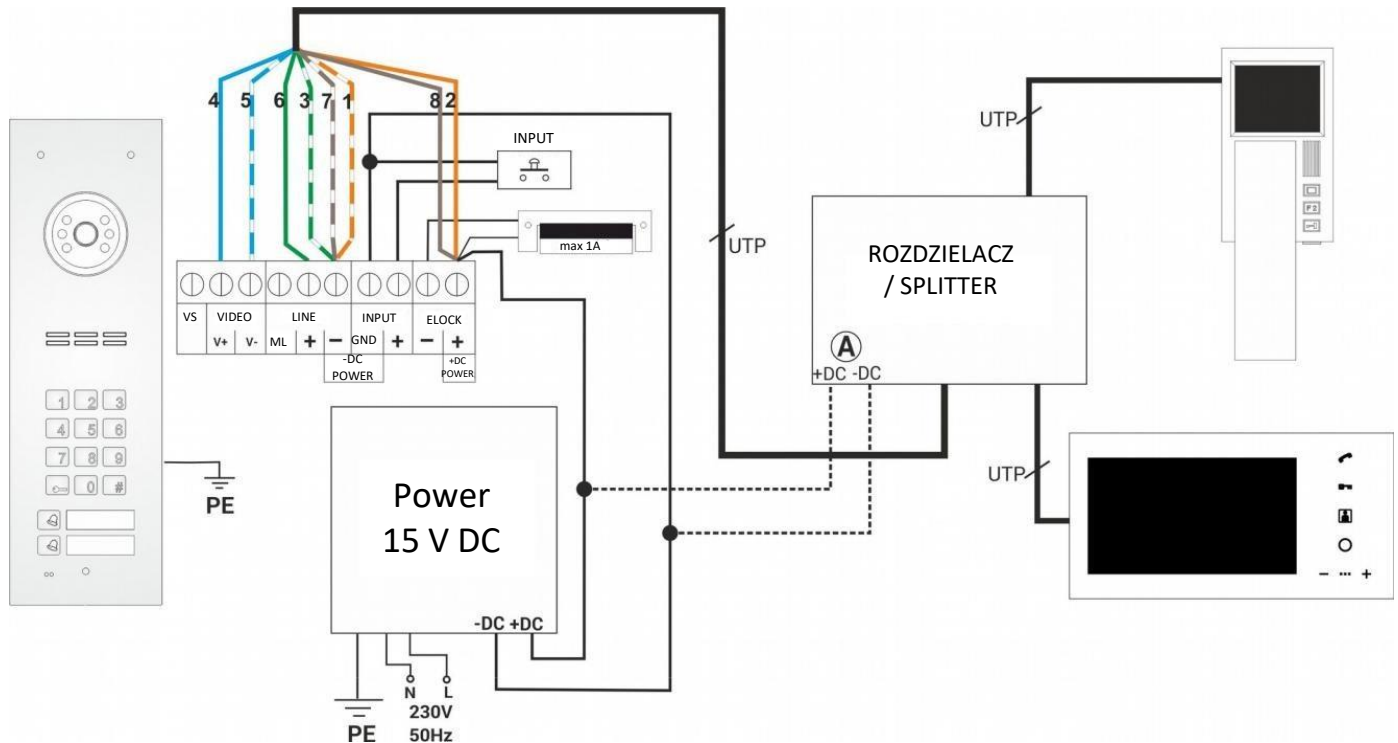
Arrange the following cables to the panel:

- 2 wires x 1mm^2 - power supply
- 2 wires x 0.75mm^2 - to E-lock
- UTP (standard T568B) – bus
- 1 wire of the cable with yellow and green insulation - for connecting the housing grounding.
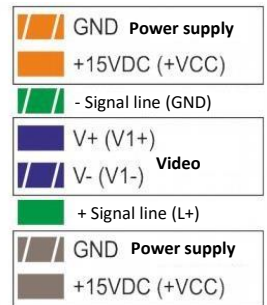
WIRING DIAGRAM

Note!

If the system features only one monitor, no video splitter is necessary and the monitor is connected at the end of the UTP bus leaving the panel. It is then absolutely necessary to connect the monitor power supply by connecting the bus cable: orange and brown together to "+DC" terminal of the panel (in this case the maximum distance between the panel and the monitor is 70m). When using Video splitters, cable length may be extended up of 300m from the panel to the monitor, assuming that the splitter, with a power supply **A** to it - is within 70m from the monitor. (It is then not required to connect the orange and brown wires to the panel - it' enough to use jumper J1 on the splitter).

12345678
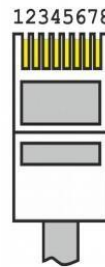
1 Orange and white
2 Orange
3 Green and white
4 Blue
5 Blue and white
6 Green
7 Brown and white
8 Brown

| | GND **Power supply** |
	+15VDC (+VCC)
	- Signal line (GND)
	V+ (V1+) **Video**
	V- (V1-)
	+ Signal line (L+)
	GND **Power supply**
	+15VDC (+VCC)

MONITOR INSTALLATION AND CONNECTION

When installing the monitor refer to the user instruction delivered with the monitor.

When connecting the monitor, make sure the RJ45 plug (standard T568B) is crimped. Before turning on the power, make sure that all RJ45 plugs are properly crimped (the same way), that the wires conduct current and check for possible short circuits between the wires. If even one RJ connector is badly crimped or in case of a short circuit between wires, the video inside unit, splitter or combiner may be damaged.

Note! Also make sure that addresses are properly configured in the monitor. For panels with direct call buttons (ring buttons), button addresses are pre-set from 1 to 6 (depending on panel model). The lowest button corresponds to address 1. If no direct button is present buttons, the addresses of the monitors are called directly from the numeric keypad (pre-set at 1 to 10).

There may be monitors with the same addresses in the video system, which means that several monitors can call at the same time when the call button is pressed. If have an additional indoor units, calling simultaneously with the monitor, use INS-UP720MR, UP800 indoor units. The same uni phones should be used in case of mixed installation (with both monitors and uni phones).
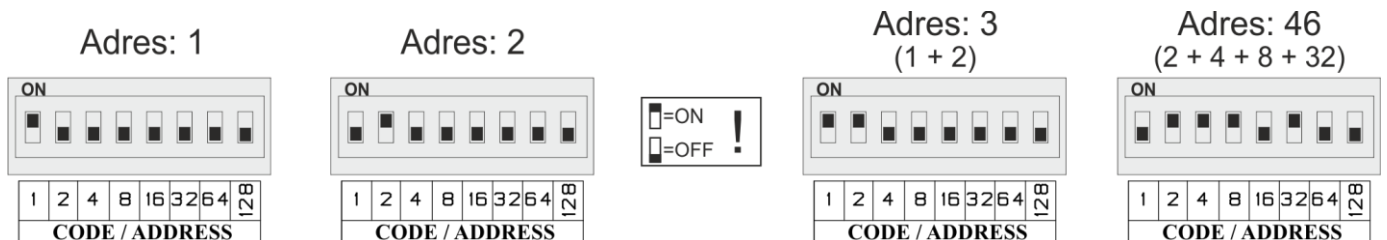
USING THE PANEL

- Turning the panel on

Each time the power is turned on, it will start beeping for 30 seconds. This function is used to stabilise the operating conditions of the handset line and to restore the default codes and panel settings. It can always be cancelled using lower call button or the "#" button.

- Calling:

Panels with direct call buttons: To call the subscriber press the appropriate ringer button - the handset in the apartment being called will start ringing.

Panels with only the numeric keypad: To call the subscriber, select the number of the apartment using the keys on the keypad (pre-set from 1 to 10).   Within 3 seconds the indoor unit in the apartment will start ringing.

The panel sends two ringing tones and sets itself to stand by waiting for the handset to be picked up. If the call is not answered within 20s, another single signal is sent. If the monitor handset is not picked up within approximately 40s, the panel will automatically switch from calling to standby mode. Calling can be cancelled at any time by pressing the "#" button. If the call is answered, the connection to the panel is established. Now conversation is possible and the door can be opened. The connection can last up to 2 minutes.

- Using a code or proximity key fob (ACC) :

To open the door (to the E-lock), use the code by entering it on the numeric keypad or, in panel standby mode, by placing a key fob to the lowest description window. For panels with a numeric keypad and direct dial buttons, the pre-set codes are **1111** (for the lower button), **2222** (for the upper button). For panels with only a numeric keypad itself, use the resident code from the pre-programmed code table (code table attached to the panel). To do this, select the number of the apartment, press the "key" button and then select the relevant code (assigned to the apartment as per the code table).

If the code (or the proximity card) is preceded by pressing the key twice, it will activate an additional device, such as a gateway (this requires an optional I/O module connected to the panel).

The panel has a function to notify residents when the code or proximity card or key fob is used - by a short triple beep emitted by the handset to which the code or key fob is assigned.

Note! It is recommended to change the codes upon installation of the panel is complete. Code change by the user in panels with direct call buttons: Enter the current code, then within 1.5 second press and hold the "key" button (for approximately 4s), until the panel emits the sound of accessing the code change procedure. Then enter a new four-digit code. For panels with only the numeric keypad, the code can be changed from the installer's menu (refer to extended user instruction).

To add and remove proximity key fobs, use the **ACC** computer program, version v3.5 or later, available at www.aco.com.pl. and connect the panel to the computer using the optional **CDN-USB** cable (to be purchased separately).

- Restoring codes and panel settings to factory default settings and deleting all key fobs:

Turn the panel power supply off, wait 5 seconds, turn the power on again. The panel will beep for 30 seconds. Press the "#" button during this time and press at the same time (immediately) press:

- keys 1 and 7 to restore the lower key code to 1111 (for panels with direct dial buttons)
- keys 2 and 7 to restore the top button code to 2222 (for panels with direct dial buttons)
- keys 2, 5, 8 to restore **all** factory settings, including both codes (in models without a numeric keypad, press the lower calling key after the first beep that can be heard after power is turned on and hold it until the factory settings reset procedure is started).

- Restoring codes and panel settings to factory default settings and deleting all key fobs:

Turn the panel power supply off, wait 5 seconds, turn the power on again. The panel will beep for 30 seconds. Press the "#" button during this time and press at the same time (immediately) press:

- keys 1 and 7 to restore the lower key code to 1111 (for panels with direct dial buttons)
- keys 2 and 7 to restore the top button code to 2222 (for panels with direct dial buttons)
- keys 2, 5, 8 to restore **all** factory settings, including both codes (in models without a numeric keypad, press the lower calling key after the first beep that can be heard after power is turned on and hold it until the factory settings reset procedure is started).

- Handset line failure: The panel detects failures (short circuit) of the handset line - indicated by blinking of keypad backlight. During this time, E-lock can be activated by pressing any button and building can be entered. When the correct state of the line is detected (when short circuit ceases), the panel is automatically restored to normal operation.

The panel has pre-set sound levels, but in a particular case, these should be adjusted to individual conditions and needs. Adjust the volume level after connecting to the receiver as follows: - with the "**MIC**" potentiometer adjust the sensitivity of the panel's microphone - with the "**SPK**" potentiometer adjust the volume level of the panel's speaker After setting the MIC and SPK values, use the "**BALANCE**" potentiometer to determine the position of the points where excitation (squealing) occurs in the speaker and set the potentiometer in the middle between these points (to get as far away as possible from the position where excitation/squealing occurs).

If the BALANCE potentiometer cannot be set to a position where there is no coupling - reduce the sensitivity of the panel microphone and/or the panel speaker volume. In a mixed system with different receivers, the adjustment should be made for the hands-free receiver by setting the maximum call volume on the receiver - if the call is "interrupted", the panel speaker volume and/or microphone sensitivity should be reduced. Make sure that the microphone of the handsfree receiver is not covered by something or is not too close to an object. **NOTE**: In the newest panels, the microphone is located in the hole of the lower panel mounting screw - any adjustments or tests should definitely be
- carried out when the screw is tightened firmly to the mounting frame/box!

USING THE OPERATION

To answer the call while it is ringing, simply pick up the handset of the monitor. During the connection, it is possible to open the door using the "key" button. Additional devices, such as a gateway, can be activated using the "F2" function key (only with optional I/O mini module connected to the panel).

The call ends automatically when the handset is hung up.

The ringing volume of the monitor can be adjusted in stand-by mode (using the switch at the bottom of the unit).

Door can be opened in standby mode by pressing the "key" button.

Refer to the extended user manual of Familio series panels available at www.aco.com.pl to find out more features of the FAM-PV series panels (programming advanced functions, systems with greater number of panels, interconnection with other ACO systems: CDNP, Inspiro, and basic troubleshooting). All settings may also be changed using the **FAM_P** computer software.

Software can be downloaded from www.aco.com.pl. (Connect the panel to the computer using the optional **CDN-USB** cable.)

RULES FOR STORING WASTE ELECTRICAL EQUIPMENT

Waste electrical equipment must not be disposed of with other waste. It should be stored in places designated for this purpose. For this purpose, please contact the responsible institutions or companies involved in waste recycling.

- Directive 2002/96/EC of 27.01.2003   *IU0204enVH.2206*