OPERATING INSTRUCTIONS FOR THE FAMILIO PRO DIGITAL PANEL
FAM-PRO-xNP-xx-x (ACC, ZS)

GENERAL INFORMATION

The Familio Pro digital video interphone system is designed to be used for single-family and multi-family solutions, where transmission of a video signal accompanied by an audio signal is required. The system also allows one to establish internal connections (intercom) between monitors. The system topology is based on Ethernet twisted pair cable, category 5e. The dedicated, energy-saving switched-mode power supply unit is equipped with an integrated video splitter: 1 input for the exchange unit and 3 monitor outputs.

The panel has got up to 3 independent call buttons. However, it can support a higher number of monitors assigned to the same button (address). It is also capable of reading proximity keycards and access badges, which allows the doors to be easily opened directly from the panel. In the versions with a coded lock, doors can additionally be opened by means of individual four digit codes. The housing is made of stainless steel, which ensures effective protection against devastation and the impact of atmospheric factors. It is easy to operate, functional and easy to install. The integrated camera is equipped with infrared LEDs (emitting light invisible to the eye), which allows users to get a video image after dark, without dazzling the interlocutor. The camera heating-up system ensures good visibility in any atmospheric conditions and prevents the lens from getting misted over and it allows the system to operate in low temperatures.

TECHNICAL PARAMETERS

• Power-supply voltage	15VDC ±5%
• Power consumption in stand-by mode	~2.5W
• Current consumption during video conversation	200mA
• Power-supply voltage of electric strike	12VDC – 15VDC
• Admissible loading of the electric strike output	1A
• Output type	regular or reverse (factory default: regular)
• Lock activity time:	0.6 to 15s (factory default: 4s)
• Output control type: constant control signal	pulse to electric strike (factory default) or to the relay
• Number of supported users	up to 3
• Camera's angle of view	about 75º
• Angle of vertical and horizontal camera adjustment	20°
• Connector type	RJ45 socket / ARK-type screwed terminal connectors
• Front panel material	Stainless steel
• Type of the input contact for external opening	Normally open (NO)
• Resistance of the INPUT contact for external opening	≤ 20Ω
• INPUT contact action delay	0 - 25s (factory default: 0s)
• Room required for surface mounting of the panel	265 x 70 mm (H x W, max. panel thickness: 45 mm)
• Dimensions of the opening for flush-mounted box	269 x 73 x 32mm (H x W x D)
• Room required for flush mounting of the panel	286 x 90 mm (H x W)
• Communication with a PC	USB (CDN-USB and the Familio PRO application)
• Maximum number of different opening codes	4 (1 for every user + 1 administrator's code)
• Maximum number of supported proximity keycards	40 (10 for users + 10 administrator's cards)
• Standard of the supported proximity keycards (RFID) Unique	125 kHz

62-002 Suchy Las, ul. Diamentowa 7, tel./fax +48 61 843 93 72
www.aco.com.pl/en

OPERATION

Establishing communication from the panel

In order to establish communication, press the call button on the panel. If the called monitor is in the system, it will start to ring (the call lasts for 45 s). Otherwise, the panel will generate a "busy" signal. During a call to a monitor, it is possible to temporarily mute the ring by touching the – icon.

To receive a call, touch the telephone receiver icon. In the conversation mode, volume can be adjusted with + and – icons. If a conversation is totally muted (the volume bar grayed out), the microphone in the monitor is switched off as well. An established connection can last up to 4 minutes. After this period, it is terminated. The monitor has the function of signalling an unreceived call from the panel. In case a call from the panel is not received, the monitor icon will blink. The signal is cancelled by touching the icon.

Use of codes and proximity keycards

In order to open the door (usually by activating the electric strike), the user should key in a correct code or bring a proximity keycard close to the bottom field with a surname (by default, no keycards are registered in the device). If a non-registered keycard is brought close to the device, the panel will generate a sequence of three sound signals. It is easiest to manage codes and keycards with the Family PRO computer application. The following codes are factory-set:

- bottom button: 1111 (for address 1)
- second button from the bottom: 2222 (for address 2)
- third button from the bottom: 3333 (for address 3)
- administrator's code: 4444

Attention! It is recommended to change all the codes, once the Panel has been installed.

If the key button is pressed before code keying or using a proximity keycard, an additional device is activated, e.g. a gate (a special PRO-I/O module is required).

The user can modify codes in the following manner: Introduce the current code. Then, during 1.5 second, press and hold the “key” button, until (after about 4 s) the panel will issue a single sound. Then, introduce the new four-digit code. The panel will confirm with a sequence of three sound that it has been accepted.

Restoring factory-defined codes and adding/deleting keycards

It is possible to restore factory-defined opening codes and add/delete proximity keycards if “Block restoration of factory-defined codes and keycards” option is not enabled. To do this, switch the panel power supply off, wait 5 seconds, press the call button corresponding to the flat, which an ascribed code and cards are to be restored/deleted, switch the panel power supply on, hold the button, until the panel issues a long continuous sound. After this operation, the panel will start to generate a fast intermittent sound signal, which means that it has restored the factory-set code and entered the keycard adding procedure (while deleting all the keycards that could have been ascribed before). If a keycard is applied to the bottom surname field, when this sound is being issued (it lasts about 5 seconds), the panel will start to open the door, which means that the first keycard (master) has been correctly read and recorded. If another unregistered card is applied during 5 seconds after door opening, the panel will issue a short double sound signal – the next keycard has been correctly read and recorded (if the keycard is held against the field for too long, the panel will start to open the door again). After that, one can register other keycards. Up to 10 keycards can be ascribed to one flat (button). To finish the keycard registration process, wait 5 seconds or press the “#” button. The keycard registration procedure will get terminated. It is possible to restore the code and delete/add cards corresponding to the administrative account only with the PC application.

Adding keycards by means of the “master” keycard”

Every first keycard that is added to a particular flat and administrative account has the status of the “master” card that can be used to add further cards. To do this, open the door with the master card and apply an unregistered card to the field during 5 seconds after the door was opened. The panel will start to open the door again, which means the next keycard has been correctly read and registered. The procedure is analogous to the one described above.

SYSTEM CONNECTION AND ASSEMBLY

The RJ45 jack should be crimped according to standard T568B. The signals on particular lines are presented in Fig. 4.1.

Before switching the power on, one should ensure that all the connections have been made in compliance with the diagram, that RJ45 plugs are correctly crimped and that there are not short-circuits between cable conductors.

INPUT	**+**	NO input for additional opening
	GND	Power supply ground and reference potential for the NO input
LINE		Signal line
+DC		Power supply voltage input
ELOCK*	**-**	Electric strike control, “-” potential
	+	Electric strike control, “+” potential
EL POW	**+**	Electric strike power supply, “+” potential
	-	Electric strike power supply, “-” potential
VIDEO	**V+**	“+” of the symmetric video signal
	V-	“-” of the symmetric video signal

Fig. 4.1 Distribution of lines in RJ45 connector and description of terminals

It is recommended to use Ethernet twisted pair cable (UTP, at least category 5e) for system cabling, and to use at least 1.5 mm2 conductors to supply power to the electric strike, while keeping the distances indicated in Fig. 4.3. Panel connections can be made interchangeably by means the RJ45 socket or screwed terminal connectors. Electric strike power supply and control lines should be made of cables appropriate for the consumed current (typically 2x1.5 mm2). In case RJ45 connector is used, twisted pair should be crimped as shown in Fig. 4.2. When screwed terminal connectors are used, they should be made according to 4.2: power supply to +DC and GND terminals, the signal line to the LINE

terminal, the video signal to V+ and V- terminals. If the distance between the power-supply unit and the panel is small (up to 10 m), it is admissible to supply the electric strike with power over the twisted pair cable and the RJ45 connector. In this case, the +DC terminal should be connected to EL POW+, while GND to EL POW-. **Such connection arrangement is not recommended. In case of incorrect system operation, the electric strike should be supplied with power over a separate line**. An optional DC power-supply unit can be used to support the electric strike. The parameters of the unit should correspond to these of the strike. The INPUT terminals allow an external button/switch to be connected, to control the electric strike "from the inside". The maximum resistance of the INPUT circuit must not exceed 20Ω. The panel should be connected, when the power is off.

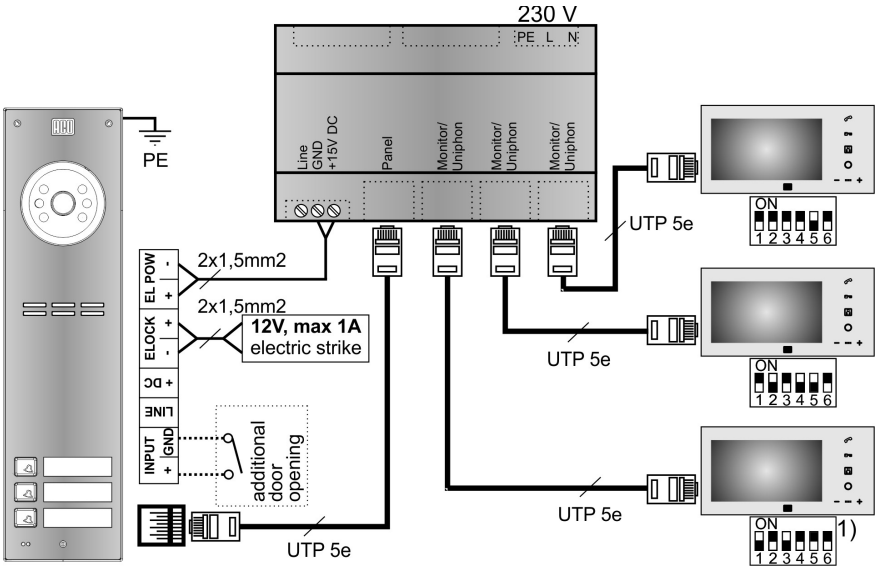

Fig. 4.2 Basic connections of the Familio PRO system and addresses ascribed to particular buttons

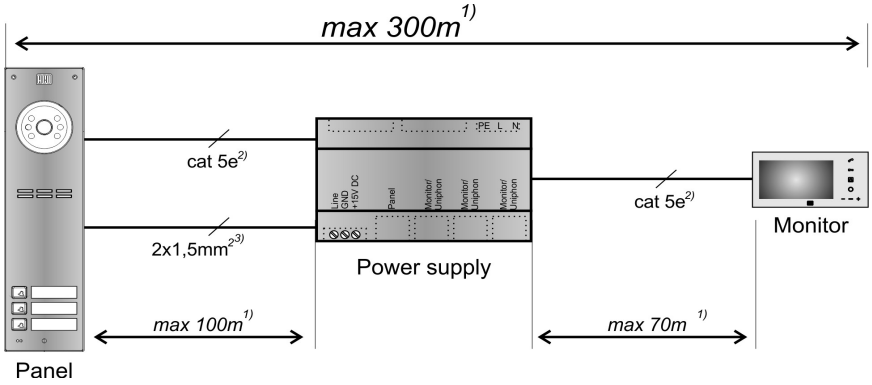

Fig. 4.3 Basic information on the length of lines and conductor types

Notes:
1) The distance specified for cat 5e can be increased by increasing conductor cross-section area (e.g. cat 6e or by adding a thicker conductor for the Line, GND and +DC signals). In order to connect the panel at the distance exceeding 100m, one should implement an additional power-supply unit (e.g. DR-45-15), connected directly to the Panel.
2) UTP Cat 5e twisted pair is required to ensure correct video signal transmission. The visual signal can get distorted if other cable types are used.
3) Power supply for the electric strike (if required) – no power-supply unit dedicated to support the electric strike
1)2)3) If conductors used to connect the system differ from the recommended ones or the distances exceed the specified values, system installation is still possible, yet one should perform a test connection of the set and check, if the entire system functions correctly. One can also get in touch with the technical support at www.aco.com.pl, serwis@aco.com.pl.
The wiring of the video interphone system (especially the audio/video signal conductors) should not run in close vicinity of other installations (power-supply, telecommunication, alarm system lines), as the proximity may have an adverse impact on the system operation. The communication volume is factory-set in the panel (as shown in Fig. 4.4).
The volume can be corrected in the following manner, after establishing a connection with a monitor:

- "**MIC**" potentiometer adjusts the sensitivity of the panel microphone,

- "**SPK**" potentiometer adjusts the volume of the panel loudspeaker.

Once these values are set with the "**BALANCE**" potentiometer, identify the points of panel loudspeaker excitation (shrieking noise) and set the potentiometer half-way between these points. The volume of sounds generated by the panel loudspeaker is set with the "**PIC**" potentiometer.

The panel should be mounted in such a way, as to minimize the impact of adverse atmospheric conditions, especially that of water. The camera should be installed at the required height, typically 1.6 m above the ground. To ensure

the visual field is optimum, one should experiment with the actual place of mounting and panel position. Avoid places, where the camera lens could be exposed to direct, perpendicular light rays (sunlight, street lamps, etc.). The box for flush-mounting (or a flush-mounting adapter) should be mounted in an appropriate opening in the wall (or a brick column by means of plaster and expansion plugs (5) (or appropriate screws) inserted into boreholes, so that the box flange surface is flush with the wall/column surface. *In case the device is to be mounted on a steel post (or similar structure, where the max. wall thickness is 32 mm), one should use an additional set of seals and bolts (3) that can be purchase separately.* Cables should be introduced into the box through opening (1) in the box base (to get a bigger opening, remove the hole plug). Auxiliary openings (4) are used for temporary mounting, for instance, with nails, when the device is mounted on soft material surfaces (e.g. styrofoam). Openings (4) also facilitate mounting, when caulking foam is used. Hole plug (2) should be removed, to mount the additional module in its place. To ensure the enclosure is as hermetic as possible, cut only the openings that are indispensable to mount the panel. **The seal should be installed just before mounting the interphone panel (to prevent it from getting soiled or covered with dust).** Implement a seal made of a single section of silicone cord. Cut the seal only when it has been set in the housing. Check the condition of the seal and the groove. If there are cracks, deformations in the seal and/or the groove or the seal and/or the groove are soiled, the enclosure will not be hermetic. Place the seal in the box groove, press it inside by passing a finger along the groove, do not stretch (stretching reduces the diameter), cut with scissors at the end. Do not remove the seal with pointed or metal tools. Such objects may scratch or damage the box groove or the seal. The flush-mounting box should be mounted in an appropriate place with openings (6) and expansion plugs or appropriate screws. Cables are introduced throug opening (7) in the box base. Then, all housing bolts are screwed down to the assembly box by means of a 3 mm Allen key.

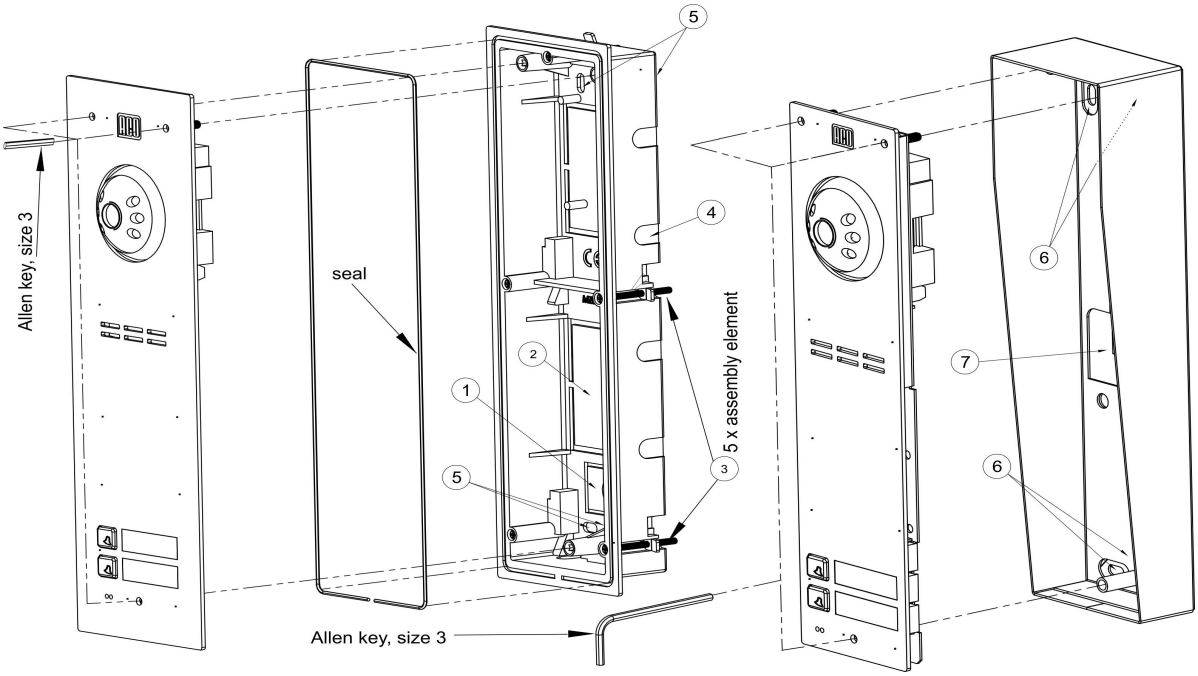

Fig. 4.5 Mounting of the box and the surface-mounted panel

More configuration options of the Familio Pro system (Connecting the panel to a computer and configuration by means of teh Familio PRO application; Upgrading Panel firmware, cooperation with a higher number of monitors, connection with other devices and description of typical problems) are described in the operating instructions for the Familio PRO Video Interphone System, available at the address: www.aco.com.pl

PRINCIPLES OF STORING USED-UP ELECTRIC EQUIPMENT

Used-up electric equipment may not be stored together with other waste products. They should be stored in special places assigned for this purpose. When disposing of used-up equipment, please address appropriate institutions or companies that provide waste recycling services. - Directive 2002/96/ECC/ of 27.01.2003