Installation and user manual for letterbox with integrated COMO-PRO-POST-A1 / COMO-PRO-POST-V1 PRO series digital door entry unit

GENERAL INFORMATION

Pass-through letterbox with integrated door entry unit for mounting in a fence post or wall. The solution is designed for single-family dwellings where the letterbox and door entry unit are integrated. The box can be installed separately, its depth is adjustable to match it with the post or wall thickness.

The front of the letterbox and the rear door for mail removal are made of stainless steel and ensure effective mechanical and weather protection. An inner drawer made of painted galvanised steel will accommodate a large quantity of mail that can be conveniently removed from inside the fence by opening the key-locked box door (supplied).

The front panel features a drop-down flap to secure the letterbox drop and a backlit call button. The box features an illuminated description field to fill in apartment number or other information. It also features an integrated a proximity key fob reader for opening the gate/door directly from the box (two key fobs are included).

The COMO-PRO-POST-A1 model is a door entry unit version with audio communication only, and the COMO-PRO-POST-V1 model also features a dome camera and is a version of a video door entry unit. In both versions the door entry unit operation is the same, in the audio version only the video functions are omitted. It is also possible to connect an independent external camera to the audio version of the door entry unit - the system operation will be similar to that with a built-in camera (for details of this solution, contact Aco technical department).

Operation of the letterbox built-in door entry unit is similar to that of COMO-PRO series panels (generation 3 PRO panels). The door entry unit supports receivers of the PRO system: video receivers include such as MPRO 7/GLASS-PRO-7, MPRO 4, and the UPRO audio receiver. The door entry unit is easy to handle, functional and its installation is simple. After connecting the optional PRO-I/O module (module with built-in relay and input for additional button) it also enables control of external devices, such as gate, barriers, roller shutters, lighting. The PRO-I/O module can also function as a doorbell - after connecting the bell button, PRO receivers will ring in different ringtones (PRO receivers can also be connected directly to the bell button, but it is necessary to install additional cables to each receiver that is to perform this function).

The wiring (topology) of the door entry unit is based on UTP min. cat. 5e for a video door entry unit or any three wires for an audio door entry unit Note that cable cross-section is important for maximum distance between the power supply and components of the door entry system.

The door entry unit is preconfigured in a way that its settings are suitable for most cases - therefor no configuration of the unit is necessary - it will work immediately after powering up. Configuration of all settings is possible only via the "PRO 3 MANAGER" PC application and optional PRO-USB modules for connecting the system to a PC (to be purchased separately). The PRO 3 MANAGER application can also be used to manage proximity key fobs and for software updates. All applications are available free of charge from www.aco.com.pl. PRO-USB can be connected anywhere in the intercom installation and will manage the settings of all generation 3 PRO devices. Adding and deleting proximity key fobs is also possible using the master key fob, which is included in the set (without connecting the panel to a PC).

Generation 3 PRO includes:
- Programming settings and software update via system bus (optional PRO-USB module required)
- Individual number of each module (Dev ID)
- Compatibility with earlier PRO system generations

Connecting two door entry panels in one system, i.e. master and slave (to switch the camera signal it is necessary to use the PRO-VIDEO-SW2-60 (G3) camera switch module)

IMPORTANT! When disinfecting panels made of stainless steel, use cleaning agents based on alcohol only.
Any chlorides (which are present in common cleaning products) are harmful to the steel surface, causing abrasion of its natural protective coating and increasing the risk of corrosio.

ACO Sp. z o.o. sp. komandytowa, 62-002 Suchy Las, ul. Diamentowa 7, phone/fax 61 843 93 71
www.aco.com.pl www.wsparcie.aco.com.pl

TECHNICAL PARAMETERS

• Supply voltage	15VDC ±5%
• Standby power consumption	~2.5W
• Maximum power consumption	400mA
• E-lock supply voltage	12VDC - 15VDC
• Permitted load of E-lock output	1,5A
• Output type	normal or reversible (by default: normal)
• Lock activation time	0.6 to 25s (by default: 4s)
• Type of output control	pulse to E-lock (default) or fixed to relay
• Connector type	RJ45 socket/removable ARK screw connectors
• Housing material	Stainless steel
• Resistance of external opening input	≤ 20Ω, input type: NO
• INPUT delay time	0 - 25s (default: 0s)
• Front panel dimensions	180 x 280 x 35 mm (H x W x D)
• Back panel dimensions	180 x 280 x 25 mm (H x W x D)
• Internal drawer tunnel dimension	160 x 250 mm (H x W)
• Internal drawer length	275 to 440 mm
• Standard of supported proximity cards (RFID)	Unique 125 kHz
• Maximum number of supported proximity cards	10 (or 10210 available via the PC application)

OPERATION

The unit will start ringing immediately after pressing the call button, provided that the system has a receiver whose address is set to 0 (broadcast - all receivers ring, regardless of the address) or to 1 (address 1 is a default address for the call button). If no such receiver is present, the unit will generate a busy signal. By default the ringing tone lasts 45 sec. and if a call is received on the receiver during this time, a voice connection is possible (by default, the connection can take 4 minutes).

Door opening (typically activation of the E-lock connected to the ELOCK output) can be done from the receiver ("key" icon) or after bringing the entered proximity key to the window, as well as by optional external button connected directly to the door entry unit (input) or connected to the PRO-I/O module.

Using the computer application the opening time can be set to between 0.6s and 25s (by default 4s) and the delay to between 1s and 25s (by default 0) after which the door will open from the moment of pressing the external button connected to the module INPUT.

When two door entry units are connected, the master unit always has priority and performs all functions by default, for instance in standby mode it will open the door or start a call. When ringing and during conversation the calling unit will automatically broadcast the image and the door can be opened using only that unit. Only one door entry unit can be used to call, the other one will be busy (it will generate a busy signal).

ADDING AND REMOVING PROXIMITY KEY FOBS

Adding and removing the key fobs is most conveniently done directly on the door entry unit, using the "Master" key fob, which is always the first one added. A maximum of 10 key fobs can be added using the "Master" key fob.

Proximity key fobs can also be managed using the PC application (PRO 3 MANAGER) for easy adding and removal of key fobs, for backups as well as for transferring stored key fobs to other door entry units. The application can be used to add 10 key fobs for each calling address (which gives us a total of 10200 key fobs) and to add 10 administrator's key fobs, which are not assigned to any receiver address.

PLEASE NOTE! For units supplied with two key fobs (master and regular) these key fobs are already registered so point 1 can be skipped. The door entry unit will give a short triple beep when trying to use a key fob which is not registered.

1. To add the "master" key fob, turn off the unit power, press the call button and then (while holding the button) turn the power back on. The unit will generate a continuous tone, which means that all key fobs (added to this address/call button) have been deleted - then release the button. The unit will start to generate a fast intermittent tone - during this time apply the master key fob to register it.

When applying a registered key fob the door will open immediately.

2. To register another key fob, not yet registered, apply it together with the master" key fob. It must be done within approx. 5s from starting the opening with the master key ring, otherwise the unit will terminate key fob adding. When key fob registration is successful, a short continuous beep will be heard.

3. In order to delete all key fobs added to the address/call button, press and hold the call button when opening from the master key fob until the unit starts generating fast intermittent sound - then release the button. All key fobs will be deleted, including the master key fob. If during this fast intermittent sound the key fob is applied it will be added again as a master key fob (similarly to point 1)

SYSTEM ASSEMBLY AND CONNECTION

Connection

Connect the door entry unit following the diagram in Fig.2 **with power off**. It is recommended to use RJ45 connectors and twisted-pair cable (UTP min. cat 5e). In this case, the maximum cable lengths is: 100m between the door entry unit and the power supply and 70m between the monitor and the power supply (for information on longer connection lengths refer to Fig. 3). All connectors must be crimped the same way as per **T568B**.

For an audio system, the minimum required number of wires between the main module and the receiver is 3 wires (min. wire diameter 0.5 mm / then the maximum distance between the unit and power supply is 50m).

Before turning the power on, make sure that all connections correspond to the diagram, the RJ45 plugs are crimped correctly and no short circuit is present between wires.

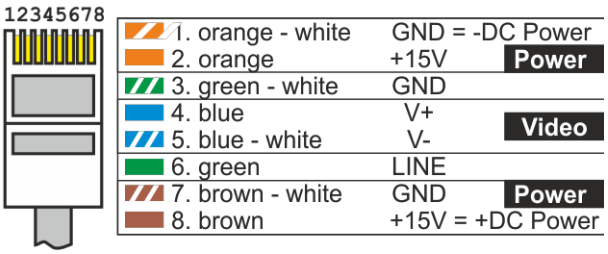


Figure 1 Crimping RJ45 according to ACO standard

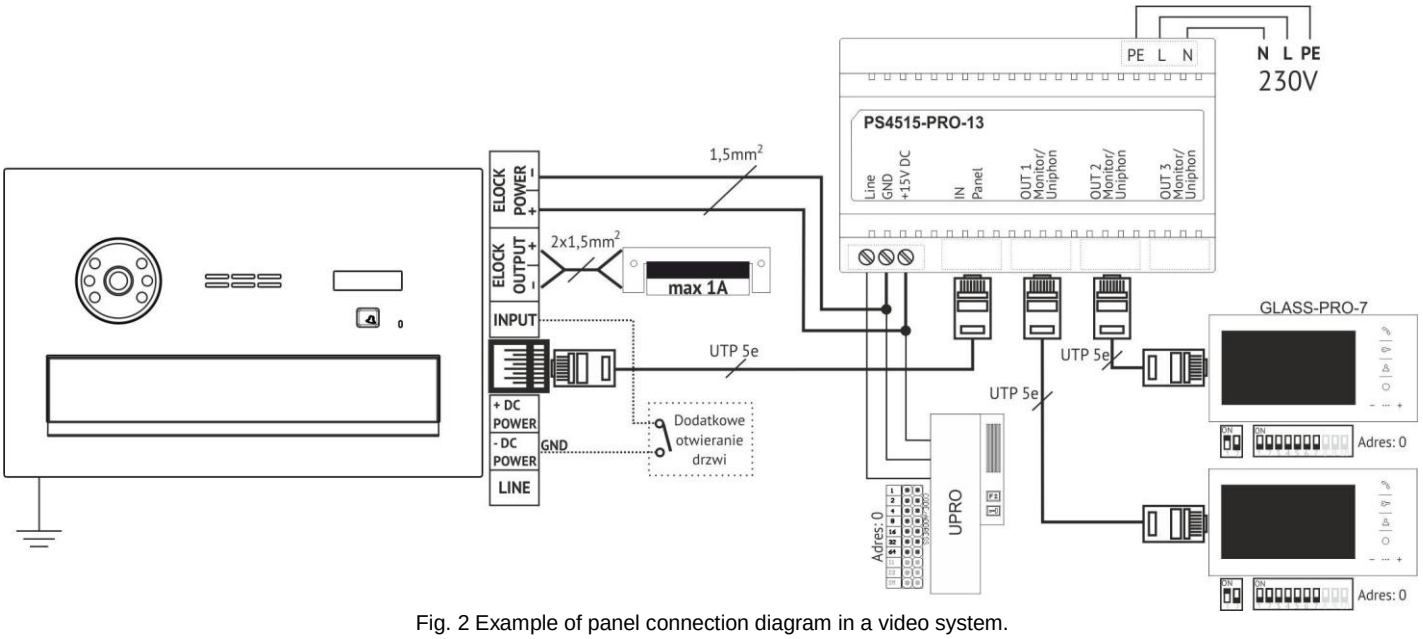


Fig. 2 Example of panel connection diagram in a video system.

If the RJ45 is not used, connect to screw terminals: power supply to +DC POWER and -DC POWER (GND) terminals, signal line (communication / audio) to LINE terminal, video signal to the V+ and V- terminals.

Connect the external NO-contact button ("ringing" button) to INPUT and GND terminals; this button will then be used for direct door opening (or for calling an apartment - after changing the module settings).

Connect the E-lock to ELOCK OUTPUT terminals (+ and -) and connect its power supply to ELOCK POWER (+ and -). In this case it is recommended to use wires selected based on the current drawn by the E-lock (typically 1.5mm^2) and to ensure the distance according to fig. 3. The ELOCK OUTPUT is set by default to "E-lock" mode - the output voltage will appear during opening and will be modulated accordingly, so that if DC voltage +15V, 12V can be used for the E-lock. In the settings, the ELOCK OUTPUT can be changed to: "Reversible" (such as when connecting a reversible E-lock) - in this case the voltage on the output will be lost during opening or "Relay" type - the voltage on the output will appear during opening without additional modulation (for instance when connecting a relay). **PLEASE NOTE!** For the "Reversible" and "Relay" type, the value of the voltage connected to the ELOCK POWER input will appear directly on the output and it is necessary to use a power supply unit with parameters consistent with the E-lock/relay (AC power supplies can also be connected to ELOCK POWER - then the output control type must be set to "Relay"). Then the distance between the power supply and the door entry unit is close (up to several meters), the E-lock can be powered using the power supply voltage of the door entry unit (twisted pair - UTP). For this purpose jumpers J2 and J3 should be inserted. **This type of connection is not recommended and depends on the type of E-lock used - use a separate wire for the E-lock if in case of improper operation of the system.**

The above diagram example uses the dedicated and recommended PS45-15-PRO-13 power supply, which features a built-in splitter for connecting more monitors. If the door entry installation requires one receiver, PS-MDR-20-15 power supply can be used - **then all connections should be made using screw connectors rather than RJ45.**

PLEASE NOTE! For proper system operation and user safety, it is recommended to connect the PE terminal to the front panel of the box. To do this, unscrew the M3 nut marked as ⏚ and then crimp the yellow/green protective conductor of the electrical installation onto the supplied ring connector. Finally, screw the connector back on in the same place.

For proper transmission of video image (without interference and distortion) it is necessary to use UTP cable min. cat 5e. For connecting other signals, another type of cable (such as a door entry system cable) can be used. The manufacturer guarantees correct operation of the system when using cables featuring UTP min. cat 5e parameters. When using other types of cables, the user is required to test the correct operation of the system.

Notes on line length:

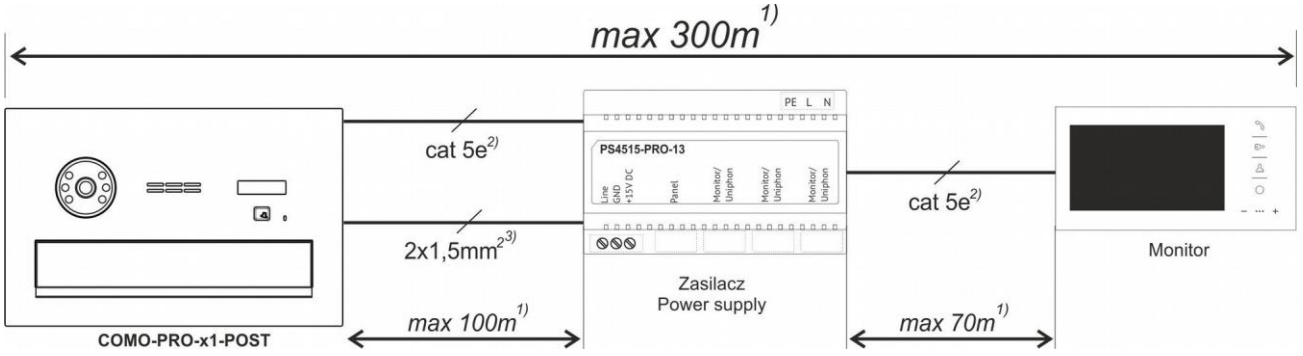


Fig. 3 Maximum line lengths.

1) The distance recommended for cat. 5e can be extended by increasing the cable cross-section (for instance cat. 6e or by adding thicker cable for LINE, -DC POWER, +DC POWER signals). To connect the door entry unit over a distance of more than 100m, use an additional power supply connected directly to the door entry unit.

2) A UTP cat 5e is required for proper video transmission, other types of cables may cause image interference

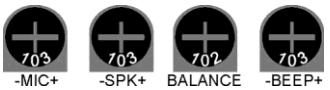
3) Power supply for E-lock (if required), no separate power supply for E-lock

1)2)3) If other wires than those recommended are used for connection of the system, or distances are longer than those specified, installation is possible, but a test connection of the kit should be carried out and the correct functioning of the whole system should be checked.

Avoid arranging wires (in particular Audio/Video signal wires) close to wires from other installations (power, telecommunication, alarm systems) as this may adversely affect the operation of the system. More information is available at www.wsparcie.aco.com.pl, by sending an email to: bok@aco.com.pl , or by calling us (contact details available at www.aco.com.pl).

Volume settings.

The call volume of the door entry unit is pre-set (as shown in Figure 4) and requires no re-setting. To change the volume settings, connect to the monitor as follows:



- adjust the sensitivity of the unit microphone using the "**MIC**" potentiometer,
- adjust the unit speaker volume level of the unit using the "**SPK**" potentiometer. Fig. 4 Volume control potentiometers.

As these values are set, use the "**BALANCE**" potentiometer to determine the position of the excitation points (squeak) in the loudspeaker of the door entry unit and set the potentiometer halfway between these points. The volume of sounds emitted by the module is set using the "**BEEP**" potentiometer.

Assembly

The internal drawer of the door entry unit (letterbox) must be embedded into a wall or post, with the front and back of the drawer flush with the wall surface or with a minimum recess of 2-3 mm. Proceed with care to avoid deforming the drawer during assembly. If necessary, additional reinforcement of the wall or post structure should be used. The drawer is two-piece and telescopic.

NOTE: the smaller, inner part of the telescope is the front of the drawer and the larger, outer part is its back. Ensure that the drawer is oriented correctly during installation: the front (mail drop) should be positioned higher and the back (mail collection) lower.

Feed the unit wires through the opening on the right side of the drawer so that they do not interfere with mail being dropped into the box. The front and rear panels are screwed from the inside. Before screwing the panels together, use the supplied gaskets from the inside around the edges. To mount the front panel, place it against the front of the mounted drawer so that the panel's mounting pins go into the holes in the corners of the drawer. Using M4 nuts, screw the front panel to the drawer. Then press the back panel against the back of the mounted drawer so that the panel mounting pins go into the holes in the corners of the drawer. Reaching inside the drawer through the open door on the back panel, screw the back panel in place using M4 nuts. The box panels should be well pressed against the wall. When screwing, seal the top and side edges of the panel in a manner appropriate to the type of installation site and ensure that the gasket does not extend beyond the panels after they are tightened.

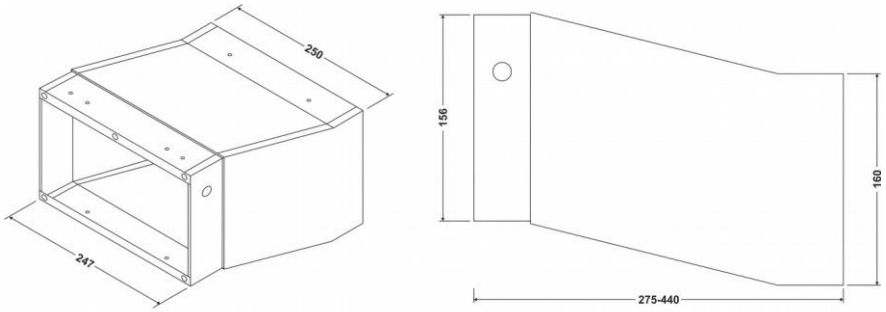


Fig. 5 Drawer dimensions

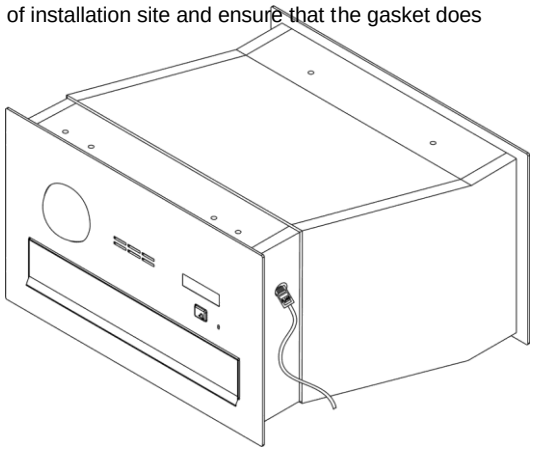


Fig. 6 Cross-section of assembled letterbox

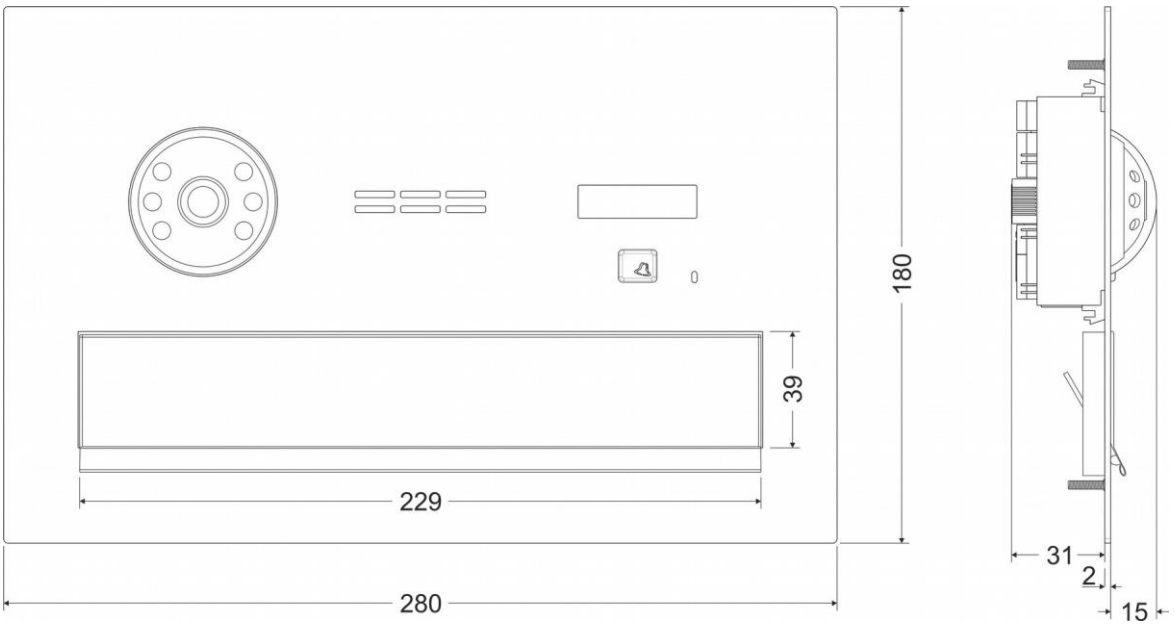


Fig. 7 Front panel dimensions

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