PREVIDIA|ULTRA

Previdia Ultra

ADDRESSABLE ANALOG CONTROL PANEL FOR FIRE DETECTION, ALARM AND EVAC SYSTEMS

Modular control panel for constructing fire detection, alarm and exinguishing systems, combined with "PA-VA" systems for the management of audio entertainment (Public Address systems) and voice evacuation (Voice Alarm/EVAC systems).

Thanks to its modular architecture, this control panel can be configured in accordance with the functions and dimensions required as follows. Each Previdia Ultra control panel can be made up of a single cabinet or of multiple cabinets (maximum 4 add-on PRCAB+ cabinets) joined together to form a single unit capable of housing up to 32 (8 per cabinet) IFM and IFAM modules (see list of functional modules below) and 8 (2 per cabinet) FPM or FPAM front panel modules (see list of front panel modules below). The IFM and IFAM modules, which connect to the CANDRIVE+ bar inside

the cabinet, are "hot swap" modules, therefore, can be replaced or added without shutting down the system, thus providing fast and secure intervention with no service interruption.

The control panels can be used individually or interconnected in a network. The network connection can be made via Hornet+ technology (BUS RS485), IDANET technology (Ethernet cable or fiber), via TCP-IP connection or by using a combination of these.

Thanks to a distributed-intelligence structure which uses a microprocessor inside each module, redundant microprocessors in the main unit and the possibility of having a backup CPU, Previdia Ultra guarantees unmatched reliability.

Fire detection

The Previdia system began life as a fire detection system and still maintains fire detection as its main function. All the various models are capable of managing up to 16 loops per control panel, each of which is capable of supporting up to 240 devices selectable from the product lineup of the Inim offer: smoke detectors, heat detectors, combined heat and smoke detectors, addressable call points, alarm signallers, single or multiple input/output modules, modules with supervised outputs, relays or relays for mains voltages.

Alarm signalling

The visual/audible alarm signallers of the ES1000 and ES2000 series can be connected directly to the loops. The vast product lineup offers devices that mount to walls, ceilings or are included in the detector bases. The different models can manage audible signals with tones certified according to EN54-3, visual signals certified according to EN54-23, audible warnings via pre-recorded messages.

Voice EVAC

The Previdia Ultra control panel includes EN54-16 certified voice evacuation functions. Each cabinet houses a 1000W power supply and can contain up to 8 amplifiers of 250W each. The control panel allows reproduction of pre-recorded messages in the various evacuation zones (up to 1000 zones managed) and the broadcasting of live announcements via the on-board PTT microphones or via remote emergency microphone bases. The system architecture, which is based on latest generation DSP processors, is capable of digitizing external audio sources, reproducing different audios on the various zones, adjusting the volume and equalization of each source and each amplifier.

Public address

The audio broadcasting system, in non-emergency conditions, can be used for playing music (connectable via various analog inputs or from digital or web sources via the IASS server), pre-recorded announcements activatable by timers or external conditions and voice announcements via microphone bases. Different audios can be sent to each zone, the volume and equalization of each source and each speaker line can be adjusted thanks to digital DSP processing.

Extinguishing

The control panel is certified according to the EN12094-1 standard and is capable of managing up to 24 gas extinguishing channels.

Emergency telephones

The system can manage a series of emergency telephones, to be installed in quiet places, through which the building occupants can contact the central console and communicate with the rescue personnel. Each control panel can manage up to 16 emergency telephone lines.

Emergency lighting

The loops of Previdia control panels support the connection of Inim Electronics emergency lighting devices (security lights and escape route signs). These devices are equipped with internal batteries as well as connected to the mains network, they can be activated or dimmed to suit requirements, perform periodic function and battery life tests as specified in the schedule set in the control panel and also report to the system the test results, any faults and the detected battery life. All data is collected, stored and provided in reports compliant with the regulations, accessible directly from the Cloud.

Video verification

Previdia control panels are capable of interacting with building video surveillance systems, by simply connecting the system to the same LAN network these control panels will be able to, via ONVIF protocol, manoeuvre the cameras and take shots of the exact point that triggered the alarm. The images are shown on the control panel displays, on remote keypads (repeaters), on the Cloud web page accessible from any PC and on smartphones via the Inim Fire App.

Gas detection

Inim Electronics gas detectors can be connected directly to the control panel loops. Available in IP55, ATEX or ATEX formats with touch display, they are based on sensitive elements of different technologies depending on the type of gas to be detected: semiconductor, catalytic, pellistor, electrochemical, infrared. Inim Electronics gas detectors are capable of detecting a long list of different gases and of reporting the detected value directly to the control panel, thus allowing different thresholds settings (3 different thresholds that can be individually programmed on each detector) and the integration of gas detection into the programmable logics.
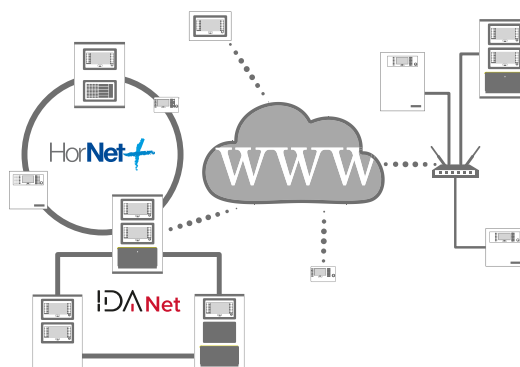
Graphic maps

The information provided to the end user through the detailed texts entered when configuring the system can be accompanied by interactive graphic maps that allow immediate understanding and localization of the danger. The graphic maps are shown on the control panel displays, on the remote keypads (repeaters), on the web page of the Cloud accessible from any PC, on smartphones via the Inim Fire App.

Networking

The Previdia range of control panels can be networked together using different technologies, these different technologies can coexist within the same system:

IDANET

Allows network connection of Previdia Ultra control panels, based on a token ring, each section can be made using a CAT5 ethernet cable (up to 100m) or optical fiber (by means of an appropriate SFP module depending on the type of fiber used). The IDANET network, in addition to sharing all the information with the various control panels, which effectively makes it into a single system, is also capable of sharing up to 20 audio tracks, thus allowing sound sources to be conveyed from one node to another in the system.

Hornet+

Network connection technology for Previdia Ultra, Previdia Max and Previdia Compact control panels. Based on token ring architecture, each section is based on RS485 and must be made using a shielded twisted pair (Ethernet cable) up to a distance of 500m. Hornet+ technology allows the sharing of all the system information on a par with the IDANET network but not the audio tracks.

TCP/IP

Each "cluster" created using IDANET or Hornet+ technology (or single control panel) can be connected via TCP-IP with up to a maximum of 20 other clusters. This type of networking makes it possible to take advantage of existing LAN networks in order to interconnect control panels with each other.

Inim Cloud Fire

All the Previdia series control panels can be connected to Inim Cloud Fire. The Cloud service applied to fire detection and alarm systems is completely free of charge. It allows two profiles, "installer" and "user", to remotely control their systems and overcomes all types of networking problems by making all the control panels reachable from any location. The Inim Cloud Fire provides video verification functions via IP cameras and event location and system management via topographic maps. Thanks to these features, the Web interface of the Cloud is configured as an actual Building Management System for the monitoring of an unlimited number of installations, points and zones involved in signalling, function buttons and customizable status icons. Additionally, the videoverification function allows instant real-time verification of the conditions in areas affected by signalling, thus ensuring secure, fast and effective management of alarms even from remote locations. Moreover, the Inim Cloud Fire allows you to keep your systems log continuously updated, as required by law, in fact all the events recorded by the control panel (to which notes can be added and signed), such as maintenance, tests and any relevant events encountered by the system operators (entered manually) are saved automatically. Finally, the Inim Cloud Fire records in detail the tests performed on each individual detector and provides an archive of test reports which can be consulted both by the installer and the user. It automatically provides diagnostic reports capable of indicating whether all periodic maintenance operations on each individual system element have been carried out, thus allowing the installer to make a work plan and the user to keep check on system maintenance.

Inim Fire App

Inim Fire is the free App that you can download from the iOS and Android stores, aimed at both professionals (installers and maintenance technicians) and end users (installation managers, security supervisors, etc.), it allows you to manage all Previdia series control panels that are connected to the Inim Cloud Fire. Thanks to its simple, intuitive interface and the use of 'push notifications,' the Inim Fire App provides an instantly understandable overview of what is happening on all the systems you have access to.

Inim Audio System Server (IASS)

The IASS server adds highly advanced "entertainment" audio functions to the system. Through access via web or app by an unlimited number of users, each with their own access rights, the server maintains a TCP-IP connection with the Ultra control panels and allows reproduction on the various audio zones of: playlists consisting of audio files, TCP audio stream sources (such as web radio), audio tracks triggered by timers, voice announcements via smartphone, etc. All the functions made available by the IASS server are obviously stopped when an emergency condition activates, in order to free up the system for the voice evacuation functions.

Inim Audio Control App

IACAPP, in combination with the IASS server, allows operating activities on the audio zones pertaining to each user in order to: adjust volumes and equalizations, select and adjust the various physical sources available to the system, reproduce existing playlists or create new ones, reproduce TCP-IP streaming audio (web radio), send voice announcements from a smartphone, activate pre-recorded messages, etc. The user interface can be customized for each user thanks to widgets that allow instant recall of the most frequently used functions.

Optional Front Panel Modules (FPM) to be housed on the front panel (maximum 2 per cabinet, 8 per control panel)

FPMCPU

Main control panel for fire detection functions. To be connected to the CANDRIVE+ bar inside the metal cabinets and equipped with a graphic colour touchscreen. This device manages the control panel and co-ordinates the various function modules. A single control panel can house 2 of these units (a main unit and a secondary unit as backup).
• FPMCPU-L light-grey plastic
• FPMCPU-G dark-grey plastic

FPAMIAS

Main control panel for voice EVAC functions. To be connected to the CANDRIVE+ bar inside the metal cabinets and equipped with a graphic colour touchscreen. It deals with the management and coordination of the various function modules assigned to it. Each Previdia Ultra control panel can house only one of these units.
• FPAMIAS-L light-grey plastic
• FPAMIAS-G dark-grey plastic

FPMLED

Module equipped with 50 configurable tri-colour LEDs (green, yellow and red), it provides instant visual signals relating to the status of the various system elements (zones, points, etc.). Each control panel can manage up to a maximum of 7 FPMLED modules (maximum two per cabinet).
• FPMLED-L light-grey plastic
• FPMLED-G dark-grey plastic
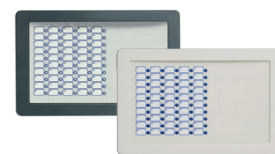
FPMLEDPRN

Module equipped with 50 tri-colour LEDs as per the FPMLED module and an 80mm printer. It provides real-time printouts of all system events. Mounts to the front plate and connects to the CAN DRIVE+ bar. Each control panel manages one FPMLEDPRN module only.
• FPMLEDPRN-L light-grey plastic
• FPMLEDPRN-G dark-grey plastic
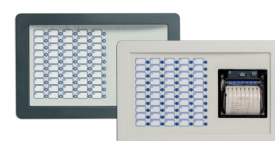
FPMEXT

LED signalling module for fire extinguishment systems If IFMEXT function modules are housed inside the control panel, it is mandatory to use one or more FPMEXT modules to visualize the status as indications separate from the display. Each FPMEXT module provides the signals from 5 IFMEXT extinction modules. Mounts to the front plate and connects to the CAN DRIVE+ bar.
• FPMEXT-L light-grey plastic
• FPMEXT-G dark-grey plastic

FPMNUL

Blind module to be used to seal the apertures on the doors of the metal cabinet when certain functions are not required.
- FPMNUL-L light-grey plastic
- FPMNUL-G dark-grey plastic

IFM (Internal Fire Module) and IFAM (Internal Fire Audio Module) modules to be housed on the front panel (maximum 8 per cabinet, 32 per control panel)

IFM2L

Module for the management of two loops. Each loop is capable of managing 240 devices. The module contains a step-up switching power-supply module for each Loop, capable of maintaining the operating voltage (during alarm and stand-by conditions) at the set values. Each control panel manages up to 8 IFM2L modules
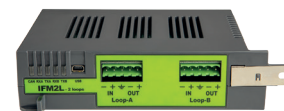
IFM4R

4 configurable relay module. Each relay supports a maximum load of 5A@MAX. 30V.
Each control panel can manage a maximum of 16 IFM4R modules.
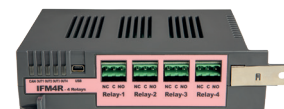

IFM4IO

4 power input/output module. Each of the 4 channels can be configured as:
- supervised output capable of supplying a maximum current of 1A@27.6V
- supervised input capable of activating warning, pre-alarm and alarm signals
- conventional zone capable of managing a line of conventional detectors, maximum 32 detectors
- 4-20mA input capable of reading 4-20mA detector signals; settable intervention thresholds.
Each control panel can manage a maximum of 16 IFM4IO modules.
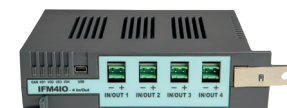
IFMDIAL

Remote dialer module communicates over the PSTN landline and GSM network, it is capable of sending voice calls resulting from on-board recorded messages and digital calls via the most widely used protocols (SIA, Contact ID, etc.). This module is also capable of sending SMS messages with detailed texts relating to the saved events. Each control panel manages one IFMDIAL module only.

IFM16IO

16 low-power Input/Outputs module. Each channel can be configured as:
- digital input (non supervised) activated with voltage present
- digital output (non supervised) capable of supporting a maximum load of 100mA@30Vdc
Each control panel is capable of managing up to 4 IFM16IO modules.

IFMNET

Control panel to Hornet+ network connection module for the connection of one or more control panels in a Hornet+ network, up to a maximum of 48 This module provides two RS485 ports for connection to other control panels. The wiring is completed as closed ring. RS485 speed settable from 9600 to 512k baud, a 12V output is provided for the power supply to eventual RS485 fiber-optic converters. Each control panel manages one IFMNET module only. All the interconnected control panels in the network must be equipped with an IFMNET module.

IFMLAN

Advanced TCP-IP service management module. Allows a second control panel connection to the Ethernet network and provides the following services:
- web Server for system control, management and maintenance
- e-mails containing events details
- IP ONVIF camera interface for video verification
- remote communications via SIA-IP protocol
- BACnet protocol (subject to licence)
- ESPA444 protocol

Each control panel manages one IFMLAN module only.

IFMEXT

Gas extinguishment-system management module Provides terminals for the management of devices which are commonly requested in this type of installation together with the adequate activation logic. The various functions available on the terminals can be replicated on devices connected to the loop (with the exception of the control of the electrovalve). Each control panel manages up to 24 IFMEXT modules. The modules must be associated with the FPMEXT signalling panel. Each FPMEXT module reports the visual signals of a maximum of 5 IFMEXT modules.

IFAMPSU

1000W switching power supply module. It connects to the mains power supply and supplies a maximum 38A current to the system. It houses a 3A battery-charger capable of maintaining under charge two 17Ah, 24Ah or 40Ah batteries. It has two supervised outputs and a configurable relay output (at factory default configured as Alarm output, AUX output and fault signalling relay). It accepts 230Vac or 115Vac 50/60 Hz input voltage. Only one power supply module can be housed inside each metal cabinet. Each control panel manages a maximum of 4 power supply modules (one for each eventual cabinet).
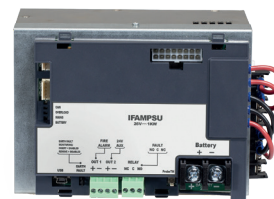
IFAMEVAC

Audio matrix module, manages the digital processing of all audio sources. It has 2 analog inputs for external sound sources (MUSIC1 and MUSIC 2), 2 analog inputs for external sound sources with priority request (AUX1 and AUX2), internal flash memory containing emergency messages and user-definable messages, SD card slot for user-defined audio files, 2 lines for standard or emergency microphone bases (max 64 per line). Connection to the Ethernet network for interaction with IASS and IAS-APP servers. Each control panel manages only one IFAMEVAC module.
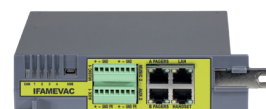
IFAMAMP

250W audio amplifier module, it provides two lines for connecting speakers configurable in A/B mode or in loop mode, each line is protected separately against short circuit. The impedance of the speaker line is supervised by a high frequency tone. Includes an analogue input for an audio source with adjustable priority for the amplifier line only. Automatic management of any backup amplifier included in the cabinet. Each control panel manages a maximum of 30 IFAMAMP modules (maximum 8 for each cabinet).
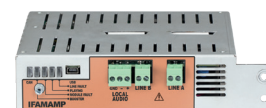
IFAMFFT

Module for managing emergency telephones, provides 4 lines for connecting emergency telephones (maximum 64 per line), by picking up one of the telephones connected to the lines, the conversation request is notified on the front panel, the conversation can be accepted by operating on the display and it is possible to create a chat with a maximum of 4 incoming calls. Each control panel manages up to 4 IFAMFFT modules.

IFAMIDANET

Module for the connection in IDANET network of Previdia Ultra control panels. Provides two RJ45 sockets for the connection via CAT5 Ethernet cable (for distances up to 100m) and two sockets for housing SFP modules for the fiber optic connection. It allows the connection of up to 48 control panels and can share, along with all the system information, up to a maximum of 20 audio tracks.
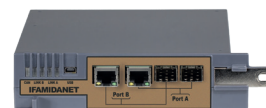
Accessories

PRCAB+

Add-on cabinet complete with door, CANDRIVE+ bar for the connection of function modules, battery shelves. The front door has two apertures into which two FPM modules can be inserted. The cabinet is supplied without the housing for the PTT microphone.
• PRCAB+ : gray colour RAL7042
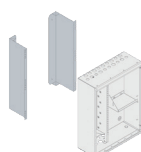• PRCAB+R: red colour RAL3001

Microphone bases

Microphone bases, available in standard or emergency models, can be connected to the IFAMEVAC module via FTP CAT6 cable on the two dedicated lines. Refer to the reference technical documentation for further details.

PRCABRK+

Bracket for mounting the PRCAB+ cabinet to a 19' rack.

Speakers

A wide range of speakers is available all compatible with the 100V RMS lines of the IFAMAMP modules, certified EN54-24 for applications in voice evacuation systems. Refer to the reference technical documentation for further details.

IAS-ADAPT1000

Module for adaptating and decoupling audio signals input into the Previdia Ultravox control panel (on analog inputs of the IFAMEVAC or IFAMAMP module). Input for 1VRMS, 70 VRMS, 100 VRMS signals. Filter for the 20KHZ included.

IAS-EOL1000

End of line for speaker lines with power less than 20W

TECHNICAL SPECIFICATIONS

Electrical specifications

Power supply voltage	230V~ (+10% -15%) 115V~ (+10% -15%) 50/60 Hz
Maximum current draw	5A @230V~ 8.5A @115V~
Output voltage	26Vdc nominal ±10%
Output voltage on speaker lines	100 Vrms
Maximum current output by the power-supply module	38A @230V~ 32A @115V~
Current available for the system	35A @230V~ 29A @115V~
Maximum battery-charge current	3A
Batteries	2 x 12V 38Ah, NP38-121 or 2 x 12 V 24Ah, NPL24-12I or 2 x 12 V 17 Ah, NP 17 -12-FR or equivalent
Operating temperature	from -5°C to +40°C
Maximum power manageable	1000W for each power-supply module (max 4000 W with 4 cabinets e 4 power-supply modules)
Speaker lines supervision	By means of 20KHz tone without need of EOL (end of line IAS-EOL1000 only with a load of less than 20W)

Connections

Hornet+ network	RS485 connection, STP CAT 5 cable max 500m, fire resistance as per the reference standard
IDANET network	Ethernet connection UTP CAT 5 cable max. 100m Fiber connection via SFP 100 base FX converter (no 1000 or G BASE converters) Fire resistance as per the reference standard
Loop connections	2-pole twisted shielded cable, sect. 0.5mm to 2.5mm (depending on load and distance) Fire resistance as per the reference standard

Mechanical features

IP protection grade	IP30
Dimensions	433 x 677 x 258 mm
Weight (without batteries)	23 Kg
Cabinet colour	Grey RAL7042 Red RAL3001

Hardware technical specifications

Maximum number of loops	16 per control panel
Maximum number of addressable devices per loop	240
Maximum number of control panels in a network per cluster	48 in token ring network
Maximum number of clusters connected via TCP-IP	20
Number of cabinets per control panel	Max. 4
Maximum number of internal modules	8 per cabinet, 32 per control panel
Maximum number of front panel modules	2 per cabinet, 8 per control panel
Maximum number of amplifiers	30 per control panel
CPU redundancy for fire detection	Dual CPU (main and emergency) inside the FPMCPU module in compliance with the provisions of the EN54-2 standard for the management of more than 512 field devices. Possibility of adding a second FPMCPU module for complete redundancy of functions

Software technical specifications

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Detection zones	Max. 1000 per control panel
Audio zones	Max. 1000 per cluster
Output groups for cause/effect management	Max. 1000 per control panel
Logical equations with AND, OR, XOR, NOT, etc., functions	Max. 256 per control panel
Pre-configurable actions	Max. 100 for fire detection and alarm functions Max. 100 for PA-VA functions
Trigger activation	Max. 500 per control panel
Events memory	Last 2000 events per control panel
Users access codes	Max. 100 per control panel
"Walk test" function	Activable through control panel or via application
Addressing of Loop devices	Autoaddressing or manual addressing via EITK2000
Timers	Max. 32 with weekly programming and max. 5 with a frequency of less than 12h for fire detection and PA-VA functions
Management of alternating sounders-voice messages	Correlation of each alarm signaller by audio zone
Customizable display	Function buttons, still images and dynamic images
Audio messages	Internal memory (IFAMEVAC module) max. 5 minutes with pre-configured emergency messages Optional SD card memory
Chime functions	Programmable on each audio or message source
Audio source priority	Pre-assigned and redefinable for each source and each message

Protocols to BMS

RTU Modbus on RS485	On FPMCPU module
Modbus on TCP-IP	On FPMCPU module
BACnet (subject to PRECBACLIT licence)	On IFMNET module

Remote communicator protocols

Voice calls with recordable messages	On IFMDIAL module – PSTN or GSM network
CONTACT-ID	On IFMDIAL module – PSTN or GSM network
SIA	On IFMDIAL module – PSTN or GSM network
SIA-IP	On IFMNET module – Ethernet network
ESPA444	On IFMNET module – On RS485 or RS232
SMS	On IFMDIAL module – PSTN or GSM network
email	On IFMNET module – Ethernet network
"Push" notifications	On IFMNET module – Via the Inim Cloud Fire

Dimensions
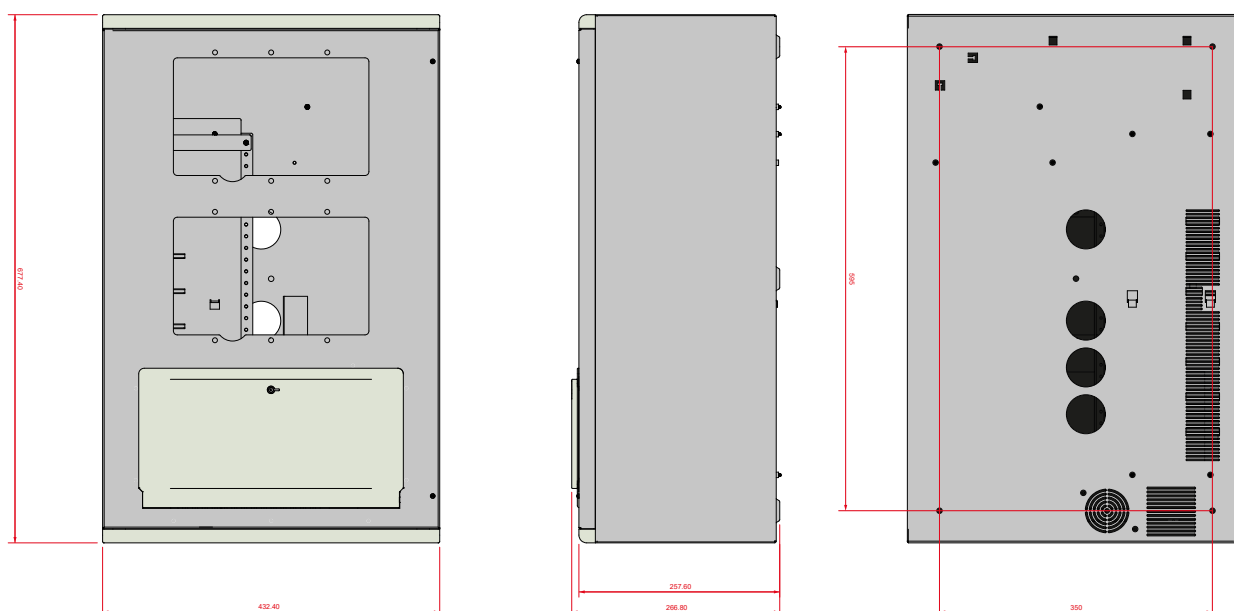
ORDER CODES

Previdia–Ultravox

Basic control panel with fire detection and voice evacuation functions, to which the FPM, FPAM, IFM and IFAM function modules can be added. The cabinet, model PRCAB+, is complete with plastic door and housing for the PTT microphone and emergency telephone.

Includes:
- 1 FPMCPU module, control panel with display for fire detection and alarm functions
- 1 FPAMIAS module, control panel with display for Evac voice functions and public address
- 1 IFAMPSU, 1000W power-supply module with battery charger
- 1 IFAMEVAC, audio matrix module for signals processing
- 1 IFAMAMP, 250W amplifier module
- 1 IFM2L, 2-loop module
- 1 PTT microphone

Previdia–Ultra216

Basic control panel with fire detection functions only to which the FPM, FPAM, IFM and IFAM function modules can be added. The cabinet, model PRCAB+, has no plastic door or housing for the PTT microphone and emergency telephone.

Includes:
- 1 FPMCPU module, control panel with display for fire detection and alarm functions
- 1 IFAMPSU, 1000W power-supply module with battery charger
- 1 IFM2L, 2-loop module

Previdia–Vox

Basic control panel with only voice evacuation functions to which the FPM, FPAM, IFM and IFAM function modules can be added. The cabinet, model PRCAB+, is complete with plastic door and housing for the PTT microphone and emergency telephone.

Includes:
- 1 FPAMIAS module, control panel with display for Evac voice functions and public address
- 1 IFAMPSU, 1000W power-supply module with battery charger
- 1 IFAMEVAC, audio matrix module for signals processing
- 1 IFAMAMP, 250W amplifier module
- 1 PTT microphone

Inim distributor's stamp and signature