iseCOMM   **icoPHP**   **icoEMERGENCY**

IP intercom system for transportation

Comprehensive communication solutions
for safe and efficient transportation.

ambient SYSTEM

Stay connected. Stay Safe

Key functions of the intercom system in a public transport facility

Managing safety and passenger flow effectively in busy public transport facilities is vital. With intercom systems, operators gain fast and dependable communication, ensuring seamless coordination across all operations.

EMERGENCY CAL

Enabling immediate emergency calls in crisis situations (e.g., life-threatening events, accidents, fires, etc.).

INFORMATION SUPPORT

Offering information assistance to passengers, including seniors and people with disabilities.

OPERATIONAL SUPPORT

Facilitating the operational work of station and rescue services by quickly locating and identifying the source of calls.

SAFETY PROCEDURE SUPPORT

Enabling real-time information exchange between operators and intercom users during mass threat situations.

For public transport facility operators, ensuring passenger safety and efficient traffic management is a priority. The intercom system is a tool that guarantees reliable and uninterrupted communication between passengers, security services, technical staff and service providers.

Functions of the intercom system

The intercom system is a modern and reliable tool for voice communication. Integrated with building security systems, intercoms improve information flow and shorten response times to incidents. As a key element of communication and safety, the system continuously monitors device performance, records events and enables audio archiving, providing comprehensive operational support.

Seamless communication and flexible connections: The system enables natural, two-way conversations and supports conference calls. It also offers call forwarding options.

Efficient message distribution: The system allows voice messages to be sent to all intercoms, specific groups or individual units, either from stored recordings or live announcements.

Advanced integration with external systems: It easily integrates with visualization and management systems (SCADA, PSIM, BMS) via protocols such as SNMP or REST API. It also supports integration with external VoIP (SIP) systems and other audio systems.

Device status monitoring: The system continuously monitors connected intercoms, distinguishing between active, idle and fault states.

Intercom functionality tests: Regular, automated device tests are performed through acoustic checks of the speaker-microphone path, ensuring uninterrupted readiness for operation.

Detailed event log and call recording: The server maintains a comprehensive system activity log and the optional call recording feature enhances security and facilitates later analysis.

Clear sound in challenging conditions: Thanks to advanced digital sound processing algorithms, such as automatic volume control, echo cancellation, and noise reduction, the system ensures high speech intelligibility even in noisy environments.

System architecture

The SIP intercom system is a server-based solution offering high reliability with optional server redundancy.

RAILWAY STATION

Station building (waiting area)

ICO-EME-B2E
Emergency intercom

Underground passage

ICO-EME-B2E
Emergency intercom

Platform 1

ICO PHP
IP INFO/SOS column

ICO PHP
IP INFO/SOS column

Platform 2

ICO PHP
IP INFO/SOS column

ICO PHP
IP INFO/SOS column

REMOTE LOCATION

Security center

ABT-ICDG-1
Intercom station

PC workstation
with **YELLOW** system

Passenger information center

ABT-ICDG-1
Intercom stations

Server room

ISE COMM
Intercom server, UPS-powered

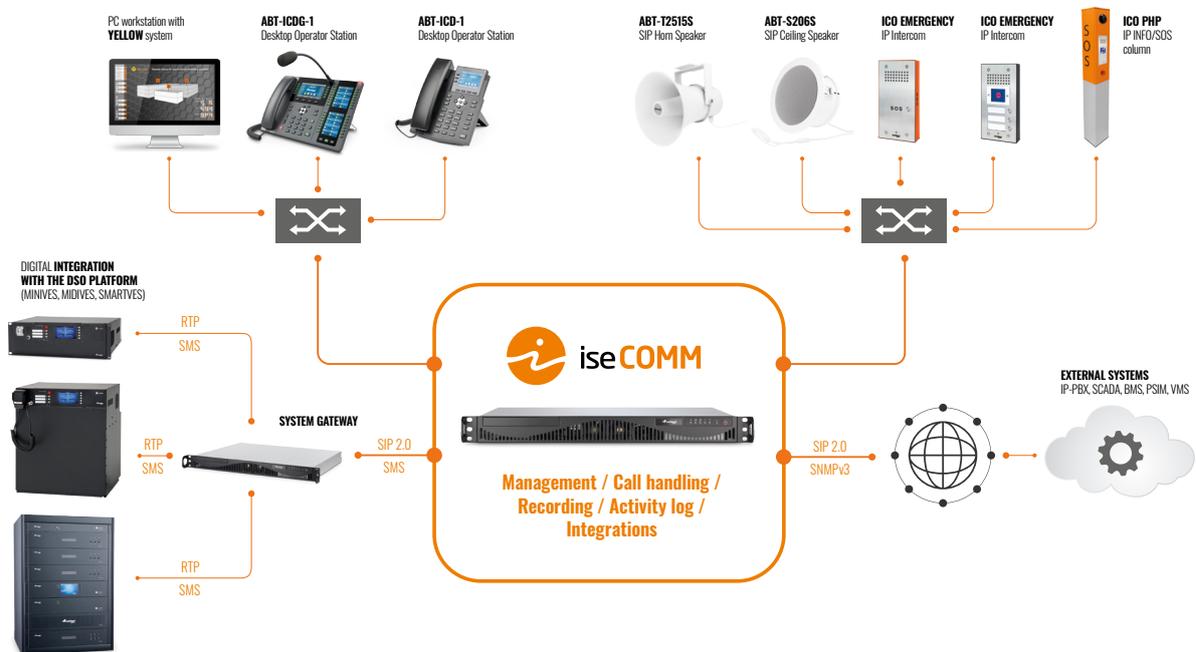The intercom system consists of the ISE COMM server, ICO EMERGENCY series intercoms, and ICO PHP information-alarm points. These key components can be connected via a dedicated network structure or alternatively, through a separate VLAN within the facility's redundant TCP/IP infrastructure. This flexibility in choosing the communication medium allows the system to be easily adapted to the specific requirements of each project, ensuring reliability and continuous operation.

SIP server

The ISE COMM server plays a key role in the system's operation, ensuring smooth functioning and easy integration with other systems. It handles voice calls as well as the maintenance and management of the entire intercom system.

To enhance security and enable event analysis, the server logs all system activities (calls, faults etc.) and allows voice call recording with storage for a specified period.

- ✔ Support for SIP-based IP **intercoms and external SIP phones**
- ✔ Capability to integrate with visualization and management systems via the **SNMPv3 protocol**
- ✔ **Capability to integrate with VoIP systems** via SIP Trunk to IP PBX servers and services
- ✔ Power supply – **230 VAC (50/60 Hz)**

- ✔ **Designing IVR frameworks** to efficiently manage communication across large networks
- ✔ **Expandable** through a licensing structure
- ✔ **Supports redundant server configurations,** where if one server fails, the other automatically assumes its functions.

INFO/SOS column

The ICO PHP SO2 INFO/SOS column enables two-way communication between passengers and support personnel. Installed at critical points like platforms, waiting halls and transfer areas, it ensures quick assistance and easy access to information.

Two-way communication with staff in any conditions thanks to noise reduction algorithms and automatic volume control.

Highly visible design with clear markings for easy identification in public areas.

Durable, vandal-resistant construction.

Integration capability with visualization and management systems via the SNMPv3 protocol.

The ICO PHP comes in a freestanding, IK10/IP65 vandal-resistant enclosure. It features two vandal-proof buttons: an SOS button to contact the Security Center operator and an INFO button to reach the Passenger Information Center.

The voice communication module of the column includes a 5W speaker and a MEMS microphone. Its control module offers 2 relays and 6 GPIO inputs/outputs for integration with external devices like light signals and specialized buttons. The network module is equipped with redundant LAN connections.

Featuring a modular design, the device can be enhanced with additional elements such as a camera, induction loop amplifier or industrial network switch. Both the configuration and mechanical setup of the column can be tailored to the client's specific needs. ICO PHP can be powered through standard PoE or an optional external power supply.

ICO PHP reports its status to the ISE COMM server and can also directly send status information to management systems (PSIM, BMS etc.) without relying on a SIP server, using the SNMP protocol.

Emergency intercom

Wall-mounted intercoms are designed for installation in key locations such as waiting areas, pedestrian tunnels and station mezzanines.

Crystal-clear communication with advanced digital audio processing, including noise suppression, echo elimination and automatic volume adjustment.

Equipped with 1 to 3 programmable buttons, 2 relays and 6 GPIO inputs/outputs, enabling seamless integration with electronic locks, signaling devices, and other external systems like PSIM or BMS.

A durable, vandal-resistant enclosure with an IP54/IK08 rating ensures reliable performance even in demanding environmental conditions.

Flexible installation options: surface-mounted, flush-mounted or in drywall. Power supply via PoE or an external DC adapter ensures easy installation under any conditions.

ICO EMERGENCY is a versatile intercom equipped with 1 to 3 programmable buttons for call management. It delivers high-quality hands-free voice communication through advanced digital algorithms including noise reduction, automatic volume adjustment and echo cancellation.

With 2 relays and 6 GPIO inputs/outputs it easily integrates with external devices such as light indicators, electronic locks or external push buttons.

The device can autonomously report its status to building management systems (PSIM, BMS etc.) via SNMP without requiring a SIP server. Its sturdy vandal-resistant enclosure with an IP54/IK08 rating ensures dependable operation in any environment. Flexible mounting options – surface, flush or drywall – are supported through dedicated accessories. Power is supplied via PoE or an external DC adapter.

We make everyday life safer