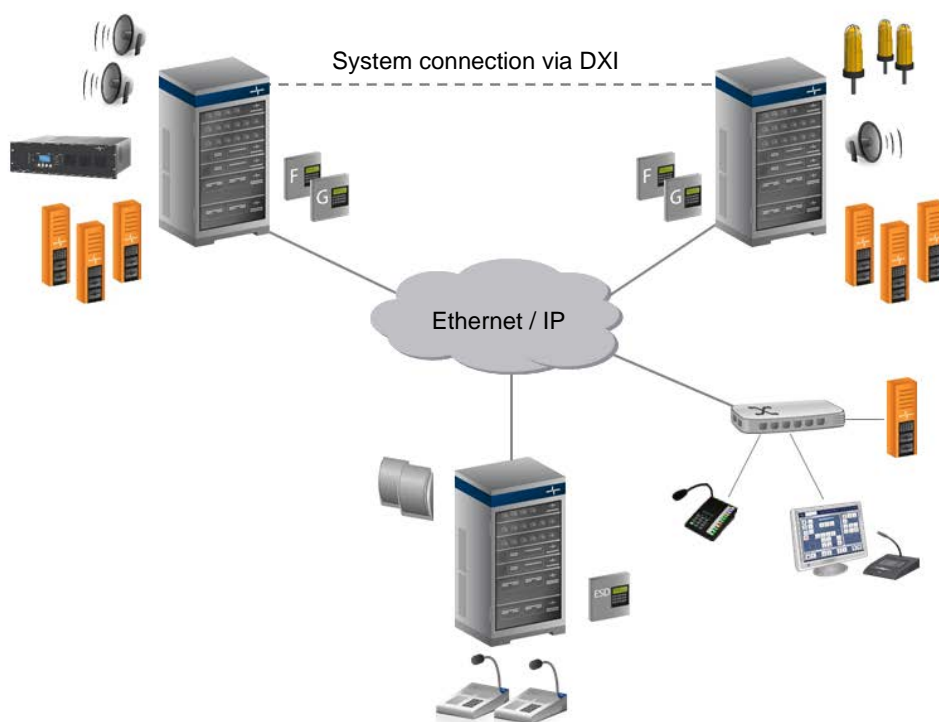


INTRON-D *plus*

Network-capable Communication and Emergency Warning System



Features and Functions

- Integrated intercom, public address and general alarm system (PA/GA)
- Flexible system networking via Ethernet and system interfaces
- Permanent system self-monitoring
- Integrated management
- Easy configuration
- Individual system architecture
- Connection to INDUSTRONIC IP terminal devices
- Flexibly configurable functions within the system network

The INTRON-D *plus* protects people, machines, and the environment and ensures an effective, prioritized and customized flow of communication while delivering the functions and capabilities of three separate systems – intercom, public address and general alarm – in one.

Each INTRON-D *plus* system provides numerous interfaces for system networking and connection of external communication and control systems.

The modular and flexible system design allows for solutions meeting any type of industrial communication requirements.

INTRON-D *plus* System Features



Intercom

- **Direct Two-way Communication***
- **Dynamic Two-way Communication***
- **Handsfree Communication***
- **Page & CallBack***
- Conference
- Party Line
- **Parallel Group***
- **Call Storage***
- **Quick Dialing***



Alarming / Warning (PA/GA)

- Mass notification
- Live announcements or playback of stored alarm tones / texts (e.g. an evacuation alarm)
- Manual, automatic and semiautomatic triggering of warning sequences
- Individual or simultaneous alarms in different areas
- Prioritization of alarms
- Emergency call function



Control Room Functions

- Call Request Control
- Switchboard Call
- **MultiControl Group***
- Elevator Emergency Call



Software & Interfaces

- Configuration software Config Manager
- DUSTRON – App for industrial communication
- Interface to fire detection and gas alarm systems as well as to emergency shutdown systems (ESD)
- SIP interfaces for the connection of IP telephone systems
- Modbus TCP interface for communication with building management systems / fire detection and gas alarm systems
- CANopen interface for communication with control room systems
- SNMP interface for connection of a network management system
- E-mail interface for forwarding of fault messages



Public Address (PA)

- **Group Call***
- **Dynamic Group Call***
- **All Call***
- **Store & Forward***
- **Repeat Last Message***



Management / Monitoring

- **Integrated management via web interface***
- **Permanent, automatic self-monitoring***
- **Fault message processing***
- **Automatic indication of fault messages and states***
- **Event processing***
- **Diagnostic functions***
- Voice recording
- Redundancy concepts for highest availability



Control Functions

- **Access control***
- Time control
- Control of lines / outputs / relays
- **200 different priority levels***
- **Maintenance mode***
- **Muting***
- **Volume control***



Signaling

- **Pre-busy signaling***
- **Visual and acoustic call and busy signaling***
- **Triggering of flashing warning beacons***



Audio

- **Audio bandwidth 7 kHz***
- **Playback of tones and texts***
- **Acoustic pre-announcement tone***

*included as standard function in the INTRON-D *plus* system activation

For further information on the individual system features, refer to our functional data sheets or the INDUSTRONIC specification.

System Parameters

General Parameters	• Max. number of networked systems	250
	• Programmable addresses	65,000
	• Group calls	1,000
	• Speaker zones	1,000
	• Priority levels	200
	• Warning sequences	1,000
System Networking	• Ethernet – 10/100BASE-T	
	• E1 / DSL	
	• Optical fiber – single mode/ multi mode	
Max. Number of Terminal Devices per System	• Digital INDUSTRONIC terminal devices	192
	• Analog terminal devices	192
	• INDUSTRONIC IP terminal devices	200
Max. Distance between Intercom Station and System	• Digital intercom station	Up to 4 km (2.5 mi)
	• Analog intercom station	Up to 4 km (2.5 mi)
	• IP intercom station	Depends on the network
Max. Number of Simultaneous Conversations per System	• Digital - digital	96
	• IP - IP	200
	• Digital/analog - IP	24
Technical Data	• Mains voltage	110 / 120 VAC or 220 / 240 VAC
	• Internal operating voltage	48 VDC to 60 VDC
	• Bandwidth of voice transmission*	300 Hz to 3,400 Hz (G.711) 50 Hz bis 7,000 Hz (G.722)

* Depends on the system design

Network Requirements

- IPv4 network
 - 10Base-T/100Base-TX Ethernet (IEEE 802.3), 100 MBit/s recommended
 - Support of UDP, TCP, SCTP, RTP and RTCP protocols
 - Quality of Service (QoS)
 - Ideal latency value < 20 ms (max. 50 ms)
 - Jitter: max. 10 ms
 - NTP support for access to a central NTP time server
 - Required bandwidths
 - 1 MBit/s basic bandwidth and 200 kBit/s per IP voice connection for system networking
 - For each IP intercom station: 200 kBit/s basic bandwidth and 200 kBit/s per active audio channel
 - For each IP public address unit NPA: 200 kBit/s basic bandwidth and 100 kBit/s per active audio channel
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Options

- Audio processor
 - IP Voice Recorder NVR
 - Redundancy
 - Single System with N+1 Components
 - Duplicated Control System (hot stand-by operation)
 - A+B System (shared operation)
 - Battery backup
 - Connectivity to third-party intercom systems
-

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Subject to technical modifications