



A&E Specifications

ZDD-1 - 1008510101



1. GENERAL

1.01 SYSTEM DESCRIPTION

A. General Requirements

1. The specified unit shall be of manufacturer's official product line, designed for commercial and/or industrial 24/7/365 use.
2. The specified unit shall be based upon standard components and proven technology using open and published protocols.
3. All installation, configuration, setup, program, and related work shall be performed by electronic technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.
4. All the security system components provided shall be backed by a two (2) year manufacturer warranty. The manufacturer shall provide warranty and optional extended warranty for the unit for a total period of maximum five (5) years. If stipulated as part of the contract, the Contractor shall repair or replace parts and/or labor per the warranty for the length of this warranty at no cost to the client.

1.02 CERTIFICATIONS AND STANDARDS

A. Sustainability:

1. Manufactured in accordance with ISO 14001.
2. Compliant with the EU directives 2011/65/EU (RoHS) and 2015/863/EU (WEEE).
3. Compliant with the EU regulation 1907/2006 (REACH).

B. The specified unit shall meet the requirements of the following EU directives:

1. 2014/30/EU
2. 2014/53/EU
3. 2011/65/EU

C. The specified unit shall meet the requirements of the following electrical product safety standards:

1. EN 62368-1

D. The specified unit shall meet the requirements of the following EMC standards:

1. EN 61000-6-1
2. EN 61000-6-3
3. EN 61000-6-2
4. EN 61000-6-4

E. The specified unit shall meet the requirements of the following EMC classifications:

1. FCC Part15

F. The specified unit shall meet the following standards:

1. Audio:
 - a. G.711
 - b. G.729
 - c. G.722 (wideband)
2. Video:
 - a. H.264
 - b. MJPEG
3. Network requirements:
 - a. IEEE 802.3bt Type 3 Class 6 (PoE)
 - b. IEEE 802.1x (Authentication)
 - c. IPv4 (RFC 791)
 - d. QoS
4. Mechanical Environment:
 - a. IEC/EN 60529 IP66
 - b. IEC/EN 62262 IK08

2. PRODUCT

2.01 EQUIPMENT

A. Manufacturer: Zenitel Norway AS

Myrens Verksted 3A

0473 Oslo, Norway

Phone: +47 40 00 27 00

www.zenitel.com

B. Model: Zenitel Door Display-1, ZDD-1. Item number: 1008510101

2.02 GENERAL REQUIREMENTS

A. Intercoms shall be IP-based and comply with established network and video standards.

B. Intercoms shall be powered by the switch utilizing the network cable.

C. The intercom shall include a built-in web server and/or web interface.

2.03 INTERCOM

A. IP video intercom

1. The intercom shall meet or exceed the following performance specifications:

a. Audio

1. The intercom shall support two-way full open duplex audio:

a. Internal microphone

b. Built-in speakers, 4 x 4W, 8 Ω

2. The intercom shall provide a maximum sound pressure level (SPL) of 100 dBA at 0.50 m.

3. The intercom shall provide a frequency range of 200 – 7000 Hz.

4. The intercom shall be equipped with audio mixing on 3 channels.

5. The intercom shall support automatic volume control, AVC.

6. The intercom shall be equipped with automatic gain control (microphone), AGC.

7. The intercom shall be equipped with sound level detection (scream alarm).

8. The intercom shall be equipped with active echo cancellation, AEC.

9. The intercom shall be equipped with active noise cancellation, ANC.

10. The intercom shall be equipped with 4 x digital MEMS, omnidirectional microphones.

b. Video

1. The intercom shall transmit 1440x1080p video streams at the maximum framerate of 30 frames per second using H.264, or 640x480p video streams at the maximum framerate of 10 frames per second using MJPEG.

2. The intercom camera shall provide images in a resolution of up to 1440x1080p.

3. The intercom camera shall provide light sensitivity down to 1 lux.

4. The intercom camera shall provide digital PTZ.

5. The intercom camera shall provide up to 4 x digital zoom.

6. The intercom camera shall provide a field of view of 146° horizontal, 109° vertical, and 180° diagonal

7. The intercom shall provide a 1/2.5" RGB CMOS image sensor.

8. The intercom shall support the following video codecs:

a. H.264

b. MJPEG

9. The intercom shall provide independently configured simultaneous H.264 and MJPEG streams.

10. The intercom shall support 7 parallel video streams (1x SIP H.264, 2x HTTP MJPEG, 4x RTSP sessions).

11. The intercom shall support Constant Bit Rate (CBR) to protect the network from unexpected bit rate peaks.

12. The intercom shall provide configurable compression levels.

13. Support motion estimation in H.264/MPEG-4

14. The intercom shall allow for video to be transported over:

a. HTTP (Unicast)

- b. HTTPS (Unicast)
 - c. RTP (Unicast & Multicast)
 - d. RTP over RTSP (Unicast)
 - e. RTP over RTSP over HTTP (Unicast)
- c. Display
- 1. The intercom shall be equipped with a 7" TFT LCD display.
 - 2. The intercom shall provide a display resolution of 1280 x 768 pixels (WXGA).
 - 3. The intercom shall provide a display luminance of 930 cd/m²
 - 4. The intercom shall provide a display view angle of 80 degrees from all sides
 - 5. The intercom shall be equipped with pulsed coherent radar sensor for presence detection.
 - 6. The intercom shall be equipped with an ambient light sensor.
- d. Call functionality
- 1. The intercom shall support SIP and IC-EDGE for integration with VoIP, peer-to-peer or integrated into SIP/iPBX.
 - 2. The intercom shall support the use of SIP Proxy, which can be the same as the SIP registrar for outgoing calls.
 - 3. The intercom shall provide storage for up to 50 addresses for outgoing calls.
- e. User Interface
- 1. Web Server
 - a. The intercom shall contain a built-in web server making functionality and configuration available to multiple clients in a standard operating system and browser environment using HTTP, without the need for additional software.
 - 2. IP addresses
 - a. The intercom shall support both fixed IP addresses and dynamically assigned IP addresses provided by a Dynamic Host Control Protocol (DHCP) server.
 - b. The intercom shall allow for automatic detection of the intercom based on WS Discovery when using a computer with an operating system supporting this feature.
 - c. The intercom shall provide support for IPv4 and IPv6
- f. Event functionality
- 1. The intercom shall be equipped with an integrated event functionality, which can be triggered by:
 - a. SIP Call state incl. incoming call
 - b. Change of SIP registration status
 - c. Noise/Motion Detection
 - d. SIP DTMF sequences
 - e. Relay
 - 2. The response to the triggers shall include:
 - a. Sending notification using HTTP, HTTPS
 - b. Call setup / end
 - c. External output activation
 - d. Playing audio clip
- g. Protocol
- 1. The intercom shall support at least SIP, SIPS, HTTP, HTTPS, TFTP, RTP, SRTP, STCP, RTSP, DHCP, SNMP, Vingtor-Stentofon CCoIP®, NTP, ONVIF, WS-Discovery

h. Security

1. The intercom shall support the use of HTTPS and TLS, providing the ability to upload signed certificates to encrypt and secure authentication and communication administration data.
2. The intercom shall provide centralized certificate management, with the ability to upload CA certificates. The certificates shall be signed by an organization providing digital trust services.
3. The intercom shall support IEEE 802.1x authentication.
4. The intercom shall restrict access to the built-in web server by username and password. Length: 8 – max 32 characters, and at least 3 of the following 4: 1 Digit, 1 Capital letter, 1 Small letter, and 1 Special character (?!@\$%*,-).

i. API support

1. The intercom shall conform to ONVIF profile S as defined by the ONVIF Organization.

j. Installation and maintenance

1. The intercom shall support secure configuration using HTTPS.
2. The intercom shall support the use of SNMP-based management tools according to SNMP v2c.
3. The intercom shall allow for software (firmware) updates over the network, using TFTP, HTTP or the web interface.
4. The intercom shall accept external time synchronization from an NTP (Network Time Protocol) server.
5. The intercom shall support back-up and restore of configuration.
6. The intercom shall store all customer-specific settings in a non-volatile memory that shall not be lost during power cuts or soft reset.

k. Access Log

1. The intercom shall be able to log such events as codes, phone calls, etc.
2. The administrator shall set whether the particular messages are to be sent by the intercom immediately after the event occurs, or if the operator registers for event logging and then asks for a full report since the last registration, all events at once.
3. The operator shall be able to select which messages are to be reported from the event log.

l. Intercom Diagnostics

1. The intercom shall be equipped with LEDs, capable of providing visible status information. The LEDs shall indicate the intercom's operational status and provide information on the power and network/intercom statuses.
2. The intercom shall be equipped with advanced supervision functions such as Keep alive test, Tone test, and Status reports.
3. The intercom shall be monitored by a Watchdog functionality, which automatically re-initiates the processes or restart the unit if a malfunction is detected.

m. Hardware Interfaces

1. Network Interface

- a. The intercom shall be equipped with two 10/100/1000Mbps Ethernet-port, using a standard RJ45 connector and shall support auto negotiation of network speed (100 MBit/s and 10 MBit/s) and transfer mode (full and half duplex).

2. Multifunctional connector

- a. The intercom shall be equipped with 3 general purpose I/Os. Each I/O can be configured either as an input or 12mA LED driver output.

3. Relay

- a. The intercom shall be fitted with a double throw relay with 60W switching power. COM, NO, NC contacts. Max: SELV, 2A, 60W.
- n. Enclosure
 - 1. The intercom shall:
 - a. Support both flush and on-wall installations for indoor and outdoor use.
 - b. Be fitted with aluminum encapsulation material.
 - c. Be fitted with ASA glass faceplate.
 - d. Have the dimensions 176mm / 6.93" (w) x 281mm / 11.06" (h) x 23.5mm / 0.92" (d) when flush mounted.
 - e. Have the dimensions 176mm / 6.93" (w) x 281mm / 11.06" (h) x 48.5mm / 1.91" (d) when wall box mounted (back box TA-35 – 1008140350).
 - f. Be supplied with IP66 and IK08 protection.
 - g. Be fitted with 7" TFT LCD touch display for scrolling, call, and cancel.
 - h. Be fitted with F 2.0, fixed iris lens.
 - i. Be fitted with ambient light sensor.
 - j. Be fitted with a pulsed coherent radar sensor
 - o. Power supply
 - 1. Power over Ethernet IEEE 802.3bt Type 3 Class 6 (51W)
 - 2. The intercom shall support PoE++
 - p. Environmental
 - 1. The intercom shall:
 - a. Operate in a temperature range of -25°C to +55°C / -13°F to 131°F.
 - b. Operate in a humidity range of < 95% (non-condensing).

3. EXECUTION

3.01 INSTALLATION

- B. The Contractor shall carefully follow the instructions included in the documentation provided by the manufacturer to ensure that all steps are taken to create a reliable and easy-to-operate system.
- C. All the equipment shall be tested and configured in accordance with the instructions provided by the manufacturer prior to installation.
- D. The firmware installed in the products shall always be the latest and most up-to-date version provided by the manufacturer.
- E. All the equipment that requires the users to log in using a password shall be configured with user/site-specific password/passwords. No system/product default passwords shall be allowed.