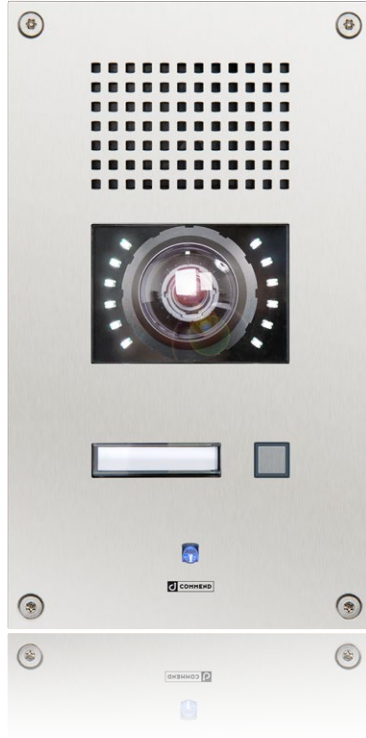# SIP-WS 201V CA

Vandal resistant SIP wallmount station with built-in Axis camera

Built-in Axis camera

High volume

Weather-proof IP66

7 kHz HD Voice

Vandal resistant IK09

The SIP solution for highest demands on safety

The OpenDuplex® capable and vandal resistant SIP wallmount station SIP-WS 201V CA with built-in high-performance Axis colour video camera has been developed for areas with high requirements on safety and system integration.

The station is connected directly to the Ethernet (LAN/WAN) and in this manner is connected to a compatible SIP server via the IP network.

Besides high volume, the SIP station provides a numerous amount of further features: Pre-recorded audio can be applied in a multi-purpose manner, e.g. acoustic indication at line break or as waiting information at call initiation. A configurable background noise suppression provides a crystal clear communication in challenging situations.

Furthermore, the station is perfectly suited for use as door station at entrances and gateways, due to integrated relay outputs.

The 3 mm stainless steel front panel with tamper protection and special screws protects against vandalism. The robust construction provides full protection against water, dirt and dust – IP rating IP66. The button can be allocated to a call number and the relevant label area can be filled in individually.

SIP-WS 201V CA DATA SHEET V1.3/0818

SA | 1

www.commend.com

COMMEND

The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

Features and highlights

Optimum speech intelligibility

A loud, clear and beautifully crisp voice signal ensures natural, face-to-face style communication with visitors and customers – even in challenging situations:

– Suppression of interfering background sounds such as traffic noise
– Easy to hear, thanks to higher volume capacity than standard SIP stations
– OpenDuplex® for simultaneous speaking and listening at high volume levels
– Switched Duplex for situations with extreme ambient noise (e.g. tunnels)
– HD Voice speech quality with 7 kHz audio bandwidth

Automated voice messages

Pressing the call button at an entrance or emergency call station triggers the playback of a customised voice message, reassuring the caller that someone will be available shortly to assist.

Always at your service, thanks to redundancy

– Stations can be logged in at several servers simultaneously
– Calls are transmitted via the active server
– In case none of the servers can be reached, the system can try to establish a serverless connection if necessary – e.g. by calling all stations on the network

Configuration made easy

The stations are specifically designed for easy, convenient configuration over the special web interface. A few clicks is all it takes to perform an update and even set up complex action sequences. For large-scale installations, the provisioning function helps to deploy configuration settings automatically and conveniently to thousands of connected stations at once.

Simply compatible

Stations can be integrated seamlessly into existing Commend security and communication systems as needed. This allows adding features such as announcements, audio recording, interfacing with external systems (e.g. visualisation) and many more.

Location identification messages

An optional location identification message (e.g. "Emergency Call Station at Subway Station West Park") can be defined for each station individually. The identification message is played back automatically when the operator at the control desk or query point takes the call. This way, the operator knows immediately where the call is coming from without having to ask. This is particularly important if there is no visualisation system installed at the control desk or query point, or if the call is relayed to a mobile phone.

Quickly assign calls and reduce waiting times

In serverless communication scenarios the next free query point is found by calling each one using an action sequence. Server integration, on the other hand, allows for incoming calls to be allocated instantly and automatically to the next available operator (e.g. at a call centre). This way, waiting times for callers are reduced to an absolute minimum.

Relays enable powerful control functions

Stations come with the ability to remote-control relays:
– Doors, shutters, gates and barriers open effortlessly at the touch of a button (desktop or mobile telephone) or by remote control via a third-party system (HTTP request)
– Easy control of signal lamps and other subsections
– Attendant contacts for additional indication of operating states such as error, ringing, active call, etc. (e.g. automatic activation of flashing light signal to indicate incoming calls)
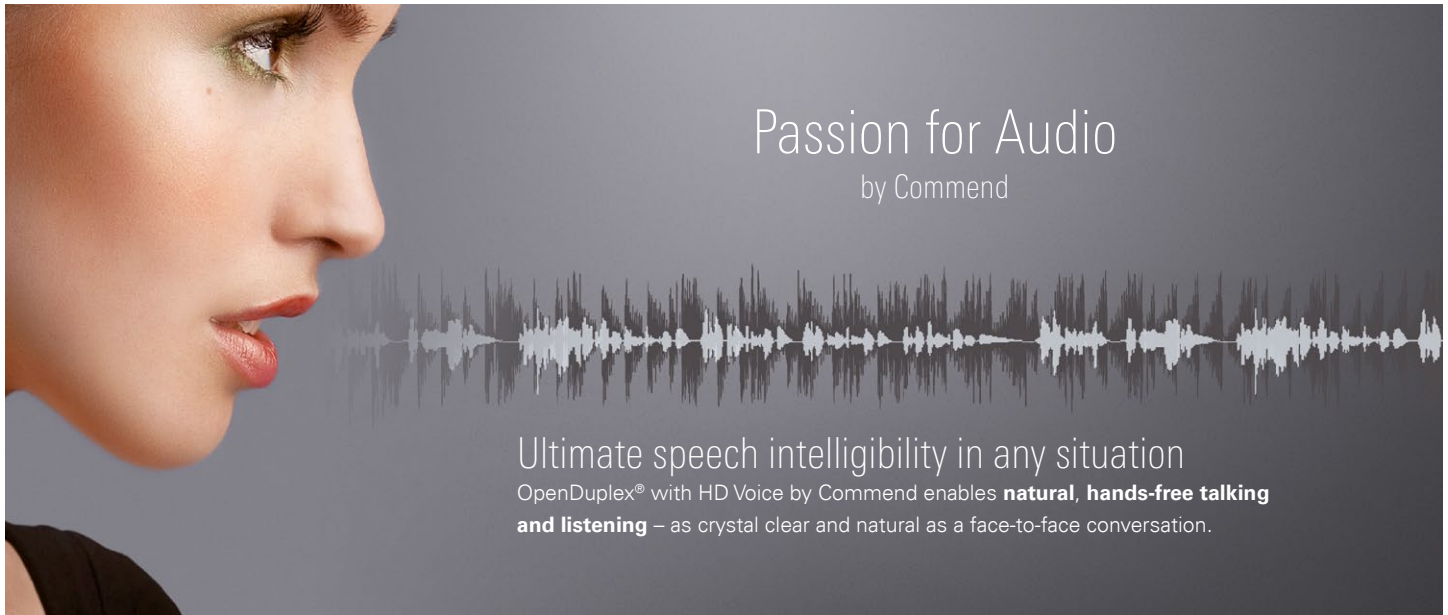
Loudspeaker/microphone surveillance

This feature causes the SIP station to emit an unnoticeable audio test signal through the loudspeaker, which is picked up and analysed by the microphone. If the test signal does not arrive in the required quality (e.g. due to chewing gum blocking the microphone), the station will notify the receiving station accordingly. This ensures constant availability without the need for regular manual inspections, which goes a long way towards saving costs.

Wide range of functions

– Telephone directory and web call
– Connection ports for external amplifier or loudspeaker
– USB ports for add-on modules or expansion modules
– SNMP for station monitoring
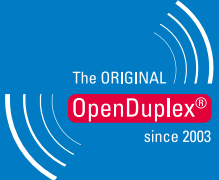– HTTP support for network-based control of stations

SIP-WS 201V CA DATA SHEET V1.3/0818
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

SA | 2

www.commend.com

COMMEND

Passion for Audio
by Commend

Ultimate speech intelligibility in any situation
OpenDuplex® with HD Voice by Commend enables **natural**, **hands-free talking and listening** – as crystal clear and natural as a face-to-face conversation.

The ORIGINAL **OpenDuplex®** since 2003	**7** kHz **HD** Voice	🔊		🎤 ✓ 🔊 ✓
Natural communication	Crystal clear audio	High volume	Background noise suppression	Loudspeaker/microphone surveillance

Audio // Basics

HD Voice	HD Voice by Commend transfers the audio signal at a bandwidth of **7 kHz**
Amplifier	High efficient class-D amplifier with 2.5 W
Microphone	Omnidirectional electret condenser microphone for max. 7 m (23 ft) speaking distance
Loudspeaker	2 x 8 Ω loudspeaker with humidity-resistant special membrane type for optimum sound quality

Learn more
audio.commend.com

Audio // Functions

Dynamic **background noise suppression** virtually eliminates all ambient noise

Loudspeaker/microphone surveillance – ensures the availability of the Intercom station while reducing the need for manual verification of its functionality

Peer-to-peer audio – reduces network and server load to ensure efficient use of resources

Conference call function for simultaneous talking with multiple conversation partners

OpenDuplex® for natural, hands-free communication

IVC (Intelligent Volume Control) automatically adjusts the device's volume setting to the ambient noise level

Switched Duplex for situations with extreme ambient noise (e.g. tunnels)

COMMEND

SIP-WS 201V CA
Technical specifications

Technical data SIP-WS 201V CA

IP rating:	IP66 (acc. EN 60529)
Mechanical impact resistance:	IK09 (acc. EN 62262)
Front panel:	stainless steel, 3 mm (0.12 in)
Microphone:	electret condenser microphone polar pattern: omnidirectional speaking distance: max. 7 m (23 ft)
Loudspeaker:	special membrane type for optimal sound quality sound pressure level: 85 dB/1 W/1 m (3.28 ft), 2 x 8 Ω
Amplifier:	integrated class-D amplifier with 2.5 W
Sound pressure level:	max. 99 dB
Handset, headset:	EM sensitivity: 14 mV$_{eff}$, EM impedance: 3.3 kΩ EM supply: 2.5 V, EP level: 850 mV$_{eff}$ at 0 dBm0 EP impedance: 200 Ω
Input:	3 inputs for floating contacts
Output:	2 relay outputs (switch-over contact) max. 60 W (DC)/37.5 VA (AC) max. 2 A max. 60 VDC/30 VAC expected life: min. 5×10^4 (2 A), 10^5 (1 A)
Line output:	for connection of loudspeaker module
Status indication:	multifunction LED (colours: red, green, blue)
Call button:	backlit call button with label area
Audio bandwidth:	7 kHz
Operating temperature range:	–25 °C to +60 °C (–13 °F to +140 °F)
Storage temperature range:	–25 °C to +60 °C (–13 °F to +140 °F)
Relative humidity:	up to 95%, not condensing
Connection:	pluggable screw terminals Ethernet: shielded RJ45 modular jacks
Cabling:	min. Cat. 5
Power supply:	PoE: IEEE 802.3af power consumption: class 0 (0.44 W to 12.95 W)
Device class:	ES1, PS2 as per IEC/EN 62368-1
Codecs:	G.722, G.711 a-Law, G.711 μ-Law
Data rate:	2 x 10/100 MBit/s (Full/Half Duplex) Auto MDIX
Audio features:	OpenDuplex®, Switched Duplex background noise suppression, pre-recorded audio
Protocols:	IPv4, IPv6, TCP, UDP, HTTP (RFC 2617, RFC 3310), RTP (RFC 3550), RTCP, DHCP, SDP (RFC 2327), SIP (RFC 3261), SNMPv2, STUN, TFTP, URI (RFC 2396), DTMF Decoding (RFC 2976, RFC 2833), SIP User Agent (UDP RFC 3261), SIP Refer Method (RFC 3515)
Mounting:	flush mount kit WSFB 50V flush mount kit WSFB 50V FL surface mount kit WSSH 50V rain protection roof WSRR 50V
Dimensions (W x H x D):	with flush mount kit: 164 x 279 x 14 mm (6.46 x 10.98 x 0.55 in) with surface mount kit: 164 x 279 x 50 mm (6.46 x 10.98 x 1.97 in) (dimensions without camera dome)
Weight incl. package:	approx. 1,500 g (3.3 lbs)

Line length in LAN

The maximum line length of Cat. 5 cabling in a LAN is 100 m (328 ft) – e.g. from switch to Intercom station.

Extent of supply

– SIP station
– Short reference
– Screws for mounting
– Snap-on ferrite

System requirements

– Compatible SIP server (see TE | 3) or
– VirtuoSIS (min. version 5.0, min. base licence PRO 3) or
– GE 800 with G8-VOIPSERV or
– Serverless operation

COMMEND

Technical data Axis camera

General

Memory and storage:	512 MB RAM, 256 MB Flash support for microSD/microSDHC/microSDXC card support for SD card encryption support for recording to NAS (Network-Attached Storage)

Camera

Image sensor:	1/2.9" progressive scan RGB CMOS
Lens:	2.8 mm, F2.0, 115°
Total horizontal camera angle of view (incl. mechanical adjustment range):	165°
Camera angle adjustment (mechanical):	± 25°
Light sensitivity:	HDTV 720p 25/30 fps with Lightfinder color: 0.06 lux at 30 IRE F2.0
Shutter time:	1/32,500 s to 2 s

Video

Video compression:	H.264 (MPEG-4 Part 10/AVC) Profile Baseline, Main and High MJPEG
Resolution:	160 x 90 to 1,280 x 720 pixels
Frame rate:	up to 25/30 fps (50/60 Hz) in all resolutions
Video streaming:	multiple, individually configurable videostreams in H.264 and MJPEG, AXIS Zipstream technology in H.264, controllable frame rate and bandwidth VBR/CBR H.264
Image settings:	compression, colour, brightness, sharpness, contrast, white balance, exposure control, exposure zones, fine tuning of behaviour in low-light conditions, rotation (0°, 90°, 180°, 270°) including Corridor Format, text and image overlay, 20 individual privacy masks, mirroring of images, Traffic Light mode

Network

Security:	password protection, IP address filtering, HTTPS [2] encryption, network access control, digest authentication, user access log, centralized certificate management
Supported protocols:	IPv4, IPv6, HTTP, HTTPS [2], SSL/TLS [2], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH

[2] This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).

System integration

Application Programming Interface:	open API for software integration, including VAPIX® and AXIS Camera Application Platform, AXIS Video Hosting System (AVHS) with One-Click Connection, ONVIF® Profile S and ONVIF® Profile G
Analytics:	included: AXIS Video Motion Detection, active tampering alarm [3] supported: AXIS Perimeter Defender support for AXIS Camera Application Platform enabling installation of third-party applications
Event triggers:	analytics, time scheduled, edge storage events
Event actions:	record video: SD card and network share upload images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email pre- and post-alarm video or image buffering for recording or upload notification: email, HTTP, HTTPS, TCP and SNMP trap PTZ: PTZ preset, start/stop guard tour overlay text
Data streaming:	event data

[3] For detection of tempering attempts in static and non-crowded scenes.

SIP-WS 201V CA DATA SHEET V1.3/0818
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

TE | 2

www.commend.com

COMMEND

Compatibility SIP PBX

Basically, the SIP stations can be used with any SIP server.
The following server types have been tested explicitly by Commend International GmbH and proper functioning has been confirmed:
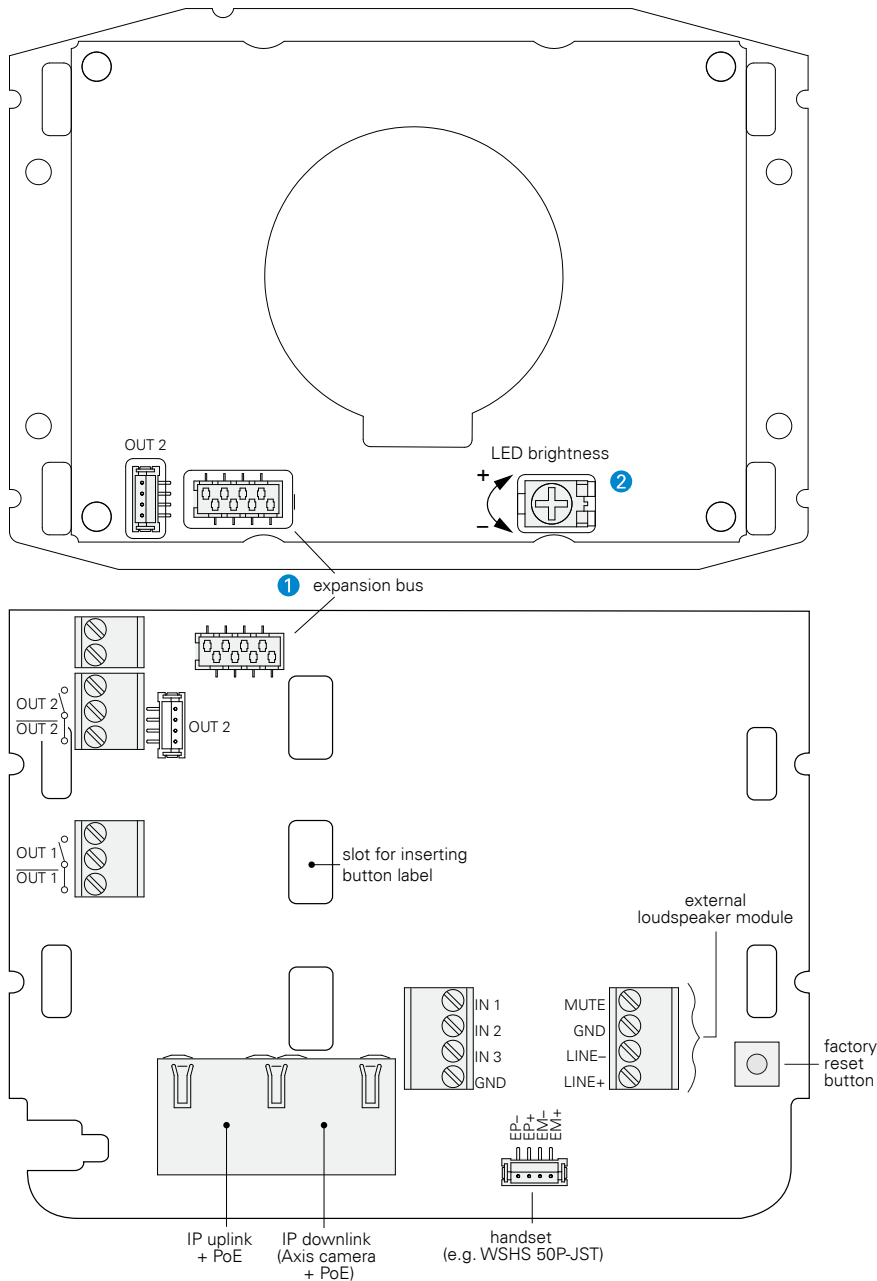
Manufacturer [3]	Type	Version
Cisco	Cisco Call Manager Cisco Unified Communication Manager	Version 5, 6, 7, 8
Digium	Asterisk	Version 1.2, 1.4, 1.6
Avaya (former: Nortel)	CS1000	Version 6
Avaya	Avaya Aura™ (Avaya Communication Manager, Avaya Session Manager)	Version 6.1
Innovaphone	Virtual Appliance IPVA	Version 9 final
Alcatel	OmniPCX Enterprise (OXE)	Release 9
Siemens	Hipath 4000 Hipath 3000 + HG 1500	Version 5
3CX	3CX for Windows	3CX Phone System Version 9, 10, 11
Starface	Starface free	Version 4.x, 5.x
Aastra (former: Ericsson)	MX-ONE	Version 4.1 SP 1
Kamailio	Kamailio (OpenSER)	Version 3.3.0
FreeSWITCH	FreeSWITCH	Version 1.1 Beta1
ELMEG	elmeg ICT880	Version 7.67D
2N®	2N® Netstar IP	Version 3.10.96
AVM	Fritz!Box Fon 7170 Fritz!Box Fon 7270	Version 29.04.87 Version 54.05.05
Sipgate	sipgate.at, sipgate.de	tested in Dec 2010
Vodafone Arcor	vodafone.de	tested in Jan 2011
blueSIP	blueSIP.net	tested in May 2011
Mitel	3300ICP	12.0.0.49

[3] The listed products and company names are brand names or registered trademarks of their respective owners.

SIP-WS 201V CA DATA SHEET V1.3/0818
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.
TE | 3
www.commend.com
COMMEND

SIP-WS 201V CA
Installation instructions

Connection

OUT 2

LED brightness

+

−

2

1 expansion bus

OUT 2
OUT 2

OUT 2

OUT 1
OUT 1

slot for inserting
button label

external
loudspeaker module

IN 1
IN 2
IN 3
GND

MUTE
GND
LINE−
LINE+

factory
reset
button

EP−
EP+
EM−
EM+

IP uplink
+ PoE

IP downlink
(Axis camera
+ PoE)

handset
(e.g. WSHS 50P-JST)

Camera illumination and heating control

1 The camera illuminator and the heating control are connected to the main board of the station via the expansion bus. The web interface shows the two additional outputs.

– Use OUT 1 on the EB2E2A as attendant contact to switch on the camera illuminator e.g. at call setup.

2 To dim the camera illuminator, use the potentiometer on the camera board.

– Use OUT 2 on the EB2E2A as attendant contact to configure the camera's heating (e.g. ON for standby state).
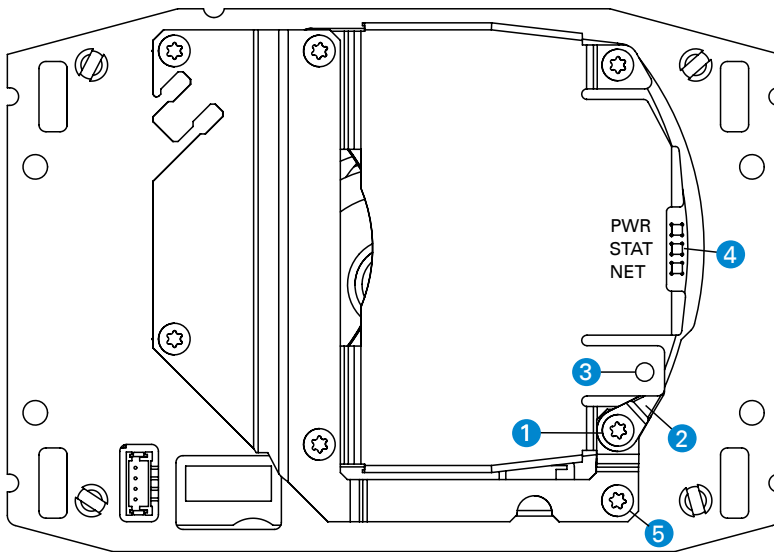
Note:

It is recommended to keep the heating permanently ON to avoid condensation on the camera glass in certain installation scenarios (e.g. inside metal columns). The same recommendation holds for environments where the station is exposed to large fluctuations in temperature and to high humidity.

Attention:

– PoE has to be connected to the RJ45 jack "IP uplink" (see connection diagram).

– The Axis camera is connected to the "IP downlink" jack of the station PCB.

SIP-WS 201V CA DATA SHEET V1.3/0818
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

IN | 1

www.commend.com

COMMEND

Axis electronic module

PWR
STAT
NET

Control button
Follow the steps below to operate the control button:
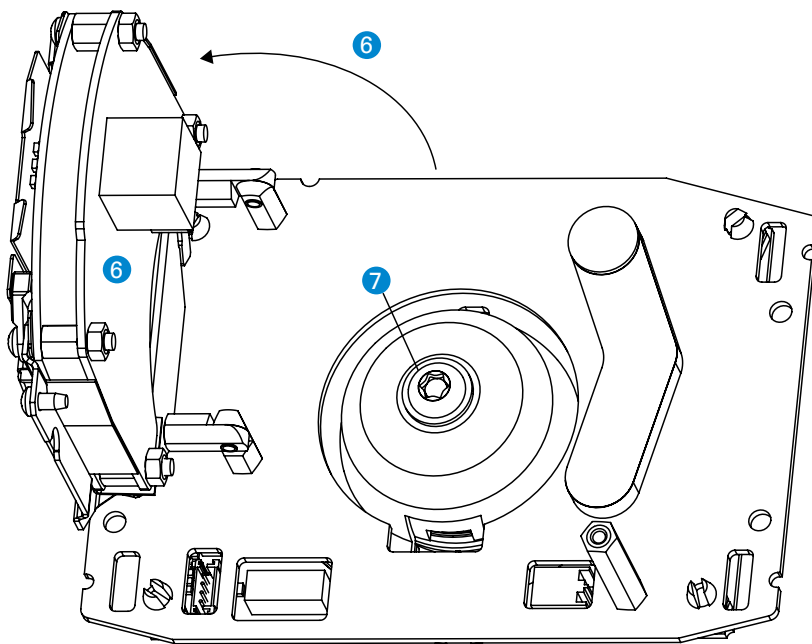– Loosen the screw ❶ (Torx T8).
– Turn the safety lever ❷ outwards.
– Push the control button ❸.
– Turn the safety lever ❷ back into its original position and tighten the screw ❶.

Follow the steps below to reset the camera to the factory default settings using the control button:
– Disconnect the power supply from the camera.
– Press and hold the control button ❸ and reconnect the power supply.
– Keep the control button pressed until the LED indicator ❹ flashes amber.
– Release the control button. If the status LED ❹ turns green, the process is completed.

Attention:
After a reset, the camera must be reconfigured, otherwise the camera image would appear 180° upside down.

Adjusting the camera
Follow the steps below to adjust the angle of the camera:
– Loosen the screw ❺ (Torx T8).
– Open up the Axis electronic module ❻.
– Loosen the locking screw ❼ (Torx T25) on the rear of the camera.
– Adjust the camera in the desired angle (max. 25° in every direction).
– Tighten the locking screw ❼.
– Move the Axis electronic module ❻ back into its original position.
– Tighten the screw ❺.

First connection
The IP address is assigned directly via a DHCP server. If the network does not have a DHCP server, the default address "192.168.0.90/24" is used.

The web interface can be accessed via a web browser using the URL "http://<IP address>". Additionally, the URL "http://<username>:<password>@<IP address>/axis-cgi/mjpg/video.cgi" can be entered in a web browser to directly access the MJPEG stream.

Login for Axis web interface
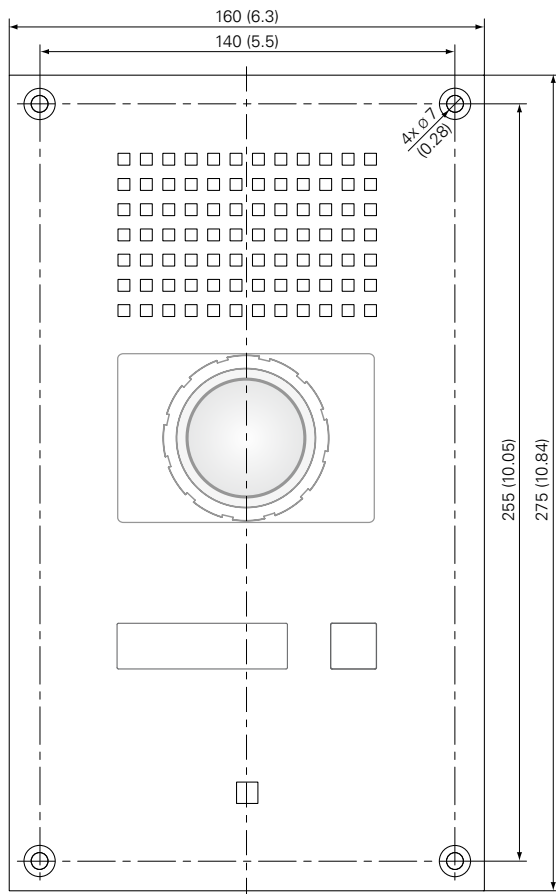User name: root
Password: root

Attention:
After a reset, the password has to be configured manually.

Note:
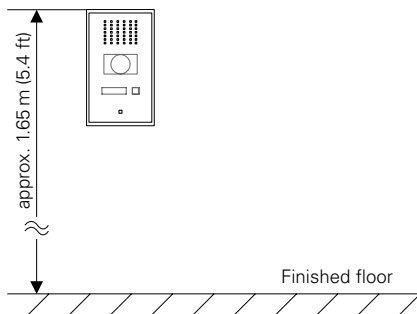For further information on installation and settings, see Axis manual "P3904-R Mk II".

SIP-WS 201V CA DATA SHEET V1.3/0818

The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

IN | 2

www.commend.com

COMMEND

Dimensions front panel

Measuring units in mm (in), not to scale!

Recommended mounting height

It is recommended to mount the upper edge of the station approx. 1.65 m (5.4 ft) from the finished floor. Adapt the mounting height to individual needs.

Precautions

– This is a Class A product (standard EN 55032). In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.
– Cables must never be placed in the space between the black protective plate of the Axis camera module and the wall mount box. Doing so may cause damage to the Axis camera or compromise the tightness of the Intercom station's housing.
– All connected circuits shall fulfil the requirements for ES1 (cf. SELV acc. IEC/EN 60950-1) and PS2 (Limited Power Source) as per IEC/EN 62368-1.
– Let the device cool down completely before touching any parts of it.
– Unplug all Ethernet cables before performing any maintenance work on the device.
– Before using the device, ensure that all cables are undamaged and properly connected
– This device may only be installed, replaced and maintained by trained and properly qualified personnel (device class: ES1, PS2 acc. IEC/EN 62368-1). The connectors are subject to possible high transient voltage surges. The device is intended for appropriate installation in locations where operating personnel cannot come into contact with uninsulated wires.
– Devices belonging to another earthing network must not be connected to the device's connectors.

Mounting instructions

– Do not expose the station to extreme temperatures (see "Technical data").
– Observe the country specific standards for installation, mounting and configuration.
– When opening the station, ESD precautions must be observed.
– The station may only be opened by authorised service engineers.
– For flush mounting, the flush mount kit WSFB 50V or WSFB 50V FL is required (available separately).
– For surface mounting, a surface mount kit WSSH 50V is required (available separately).
– Use shielded Ethernet cables only.

Quality tested. Reliable. Smart.

COMMEND products are developed and manufactured by Commend International in Salzburg, Austria.

The development and manufacturing processes are certified in accordance with **EN ISO 9001:2015**.

OBSESSIVE ABOUT QUALITY

The technical data contained herein has been provided solely for informational purposes and is not legally binding. Subject to change, technical or otherwise. IoIP®, OpenDuplex® and Commend® are trademarks registered by Commend International GmbH. All other brands or product names are trademarks or registered trademarks of the respective owner and have not been specifically earmarked.

A strong worldwide network

COMMEND is represented all over the world by local Commend Partners and helps to improve security and communication with tailored Intercom solutions.

www.commend.com

SIP-WS 201V CA DATA SHEET V1.3/0818
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.
IN | 3   www.commend.com   COMMEND