od1 OD1, OD1-B

High-end outdoor Intercom station

Future-proof system

Weather-proof IP65

Modular solution

Ready for Symphony Cloud

The compact high performer

Slim, feature-rich, easy to use: The od1 is the powerful single-button model from Commend's Concerto series. The Intercom station is designed specifically for applications that require outstanding speech intelligibility with ease of use.

The od1 is equipped with a tactile call button, which can be configured with different functions. In combination with the multi-coloured LED ring, it is possible to visualise different states. This makes the od1 suitable for door applications as well as an information station and emergency call station.

The od1 meets Commend's high standards for device safety. Cyber security can be enhanced by connecting an IP Secure Connector.

Ready for Symphony Cloud
The Intercom stations can be connected to Symphony Cloud and use its services. Symphony Cloud is the world's first cloud-based Intercom platform with "Privacy and Security by Design". Visit the website to find out about the services currently available and if they are already offered in your country.
symphony.commend.com

Features and highlights

- Meets the highest cyber security standards
- Suitable for outdoor and indoor use
- 3-mm-thick, hardened front glass
- Durable and resistant to wind and weather thanks to high-quality components and IP65 rating
- Barrier-free design thanks to large, illuminated pictograms, a call button with haptic bell symbol and expandability through the induction loop kit AFIL-USB
- Crystal clear sound with up to 20 kHz speech quality and a sound pressure level of up to 98 dB thanks to the latest Smart Audio Amplifier technology
- OpenDuplex® for natural, hands-free communication
- Sophisticated housing concept for easy, secure installation
- Surface mount kits and flush mount kits with locking mechanism
- Integrated tamper contact (to be combined with the mounting kits XDX FB, XDX SH or XDX SHE) and permanent line and function test
- Easy to expand via USB interface

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

Key benefits at a glance

Crystal clear sound: the loudspeaker and high-quality audio technology ensure a perfect listening and speaking experience.

A total of four large, illuminated pictograms and expandability through the AFIL-USB induction loop kit complete a barrier-free design.

The waterproof housing makes the Intercom station suitable for outdoor areas (IP65 rating).

A question of attitude: the Intercom station is quick and easy to configure individually using the web interface.

Large, haptic button including illumination with configurable colours for finding the button in the dark and for displaying special functions.

CONCERTO always strikes the right note, with a MEMS microphone ensuring that no interfering background noise gets through. The device firmware and special audio algorithms provide an exceptionally high level of speech intelligibility.

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Product details

Variants

OD1

High-end outdoor Intercom station in silver.

OD1-B

High-end outdoor Intercom station in black.

Accessories

Gypsum wall/panel kit XDX FB

With the gypsum wall/panel mount kit XDX FB, an Intercom station can be installed e.g. in a drywall.

Surface mount kit XDX SH

With the surface mount kit XDX SH, an Intercom station can be mounted on a wall. The XDX SH is primarily intended for subsequent installation on a wall or for installation on thin walls.

Flush mount box XDX FBS

With the flush mount box XDX FBS, an Intercom station can be installed e.g. in a brick wall. The XDX FBS is designed for wall mounting during the construction or renovation phase. To mount the Intercom station, the gypsum wall/panel kit XDX FB is required.

Surface mount kit XDX SHE

With the surface mount kit XDX SHE, an Intercom station can be mounted on a wall. The XDX SHE is primarily intended for subsequent installation on a wall or for installation on thin walls. The XDX SHE provides extra space to install accessories (e.g. EB3E2A-AUD, AFIL-USB or IP-BRIDGE).

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Mounting kit XDX SHMM

With the mounting kit XDX SHMM, a surface mount kit XDX SH or XDX SHE can be mounted to a door mullion.

Dummy module for RFID readers XDX FBDUR

With the dummy module XDX FBDUR, RFID readers from 3rd-party systems can be installed using the same design as the Intercom station. The special materials of the XDX FBDUR ensure that electromagnetic signals from an RFID reader can be transmitted ideally.

Safety switch box IP Secure Connector

The IP Secure Connector provides high performance and high, absolute security, even if the connected Intercom station is located outdoors: If an unauthorised attempt is made to remove the Intercom station, e.g. to access the connected Ethernet cable, the IP Secure Connector interrupts the connection to the Intercom station and LAN. This ensures that it is neither possible to access the network nor to open a door or gate. Furthermore, the IP Secure Connector offers a PoE+ power supply and has two inputs and three outputs.

Power injector PA 25W POE-DC

In applications where PoE sourcing equipment is not available, the optional power injector PA 25W POE-DC offers a compact, convenient solution. It supports a wide DC input range (24–48 V) and is IEEE-802.3af/at-compliant. The power injector connects easily and conveniently to an Intercom station through an Ethernet cable.

Expansion module EB3E2A-AUD

The expansion module EB3E2A-AUD provides an easy way to expand the I/O and audio capabilities of an Intercom station. The expansion module is suitable for any applications where inputs and outputs are required. It has three inputs, two output relays and ports for direct connection of an external loudspeaker, an external microphone and a handset. Line-in and line-out connectors provide additional flexibility. The module can be connected to the Intercom station through a USB cable and is immediately available in the system.

Induction loop kit AFIL-USB

With the AFIL-USB, an Intercom station can easily and quickly be equipped with an induction loop amplifier module. To take advantage of this, only a free USB jack is required at the Intercom station. Thanks to its compact size, the AFIL-USB fits easily into a flush or surface mount box.

USB I/O module EB1E1A

With the USB I/O module EB1E1A, an Intercom station can be expanded with an input and a relay output (normally open contact). The EB1E1A can be connected to a free USB port. By doing this, an input as well as a floating, galvanically-isolated output contact is available immediately – e.g. for use with a door opener.

USB I/O module EB8E8A

A device can be quickly expanded with inputs and outputs using the USB I/O module. The total of 8 inputs and 8 outputs of the EB8E8A enable an easily scalable solution. The EB8E8A complies with Commend's strict cyber security guidelines, e.g. for switching outputs. The module is connected using USB.

NOTE
The device supports connecting 1 USB device of the same type at any time.
Example: 1 EB3E2A-AUD and 1 EB1E1A.

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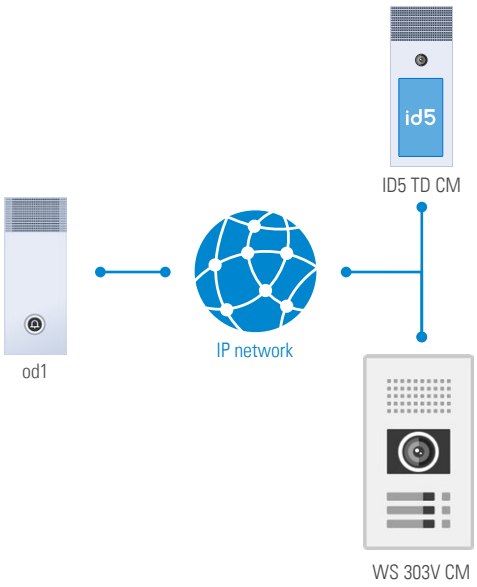
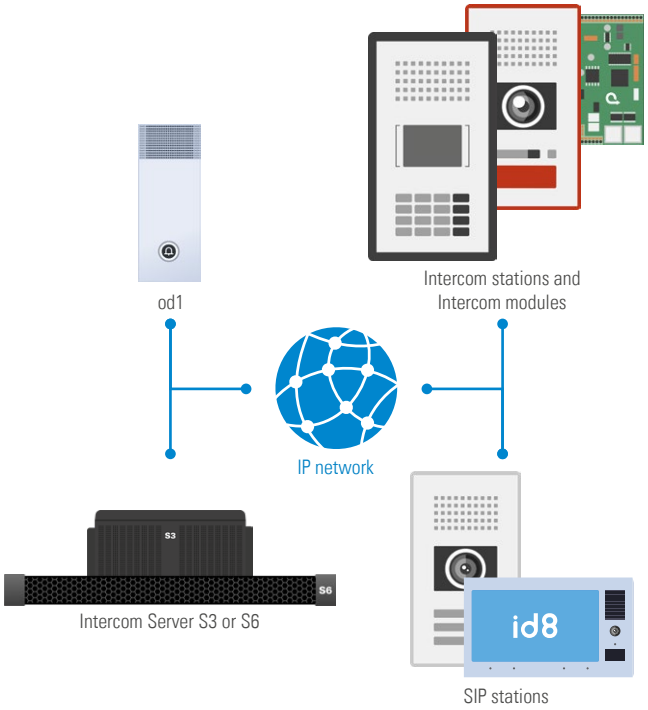
System overview

Operation with Symphony Mesh

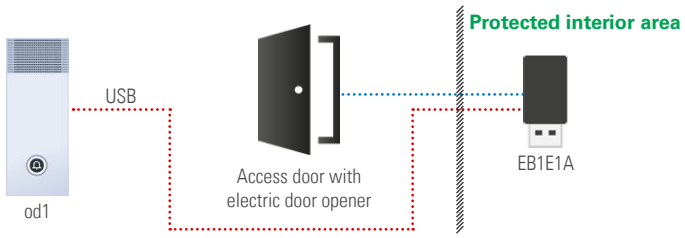


Operation with Symphony On-Prem

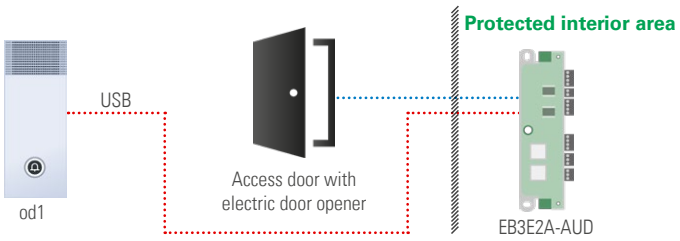


Wall application examples

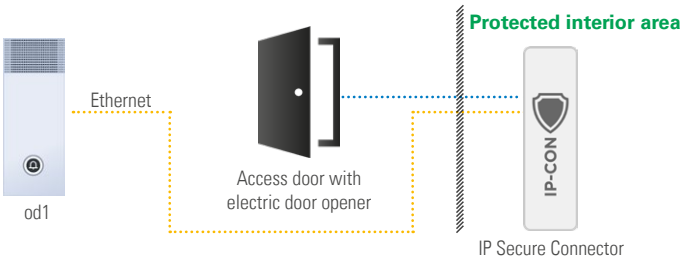
od1 with EB1E1A (1 input, 1 output, connected via USB)



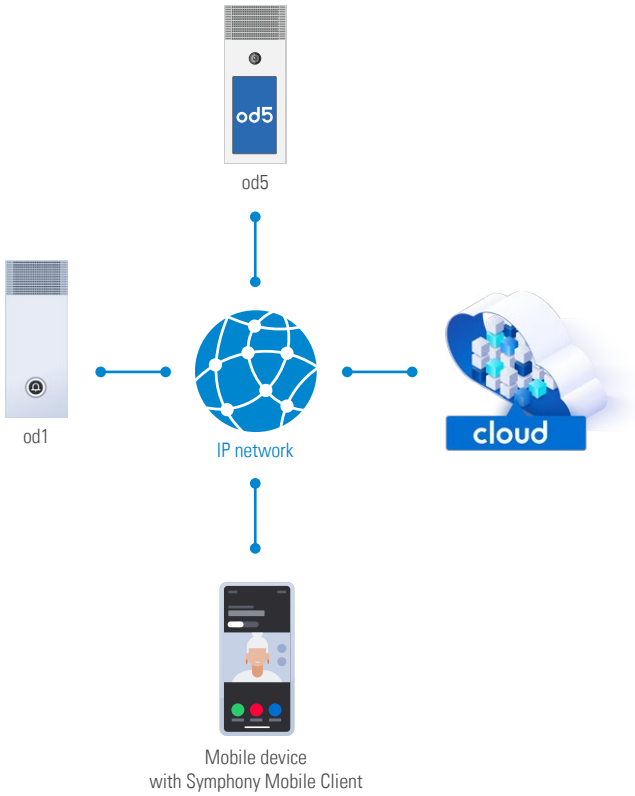
od1 with EB3E2A-AUD (3 inputs, 2 outputs, connected via USB)



od1 with IP Secure Connector (2 inputs, 3 outputs, network security and PoE, connected via Ethernet)



Operation with Symphony Cloud



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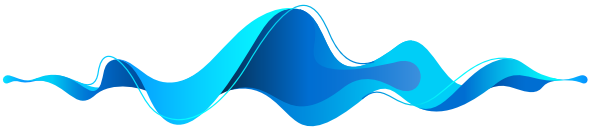

CERTIFIED ACC. TO ISO 27001 IEC 62443-4-1

Passion meets audio

Ultimate speech intelligibility

Because every word matters, high speech intelligibility is crucial in security and communication solutions. In everyday life, it enables natural and brilliant communication; in operational processes, it ensures improved efficiency and in an emergency often buys life-saving time.

AI CLEANS VOICE FROM NOISE

Noise cancellation

Revolutionary **AI-based** noise cancellation, powered by our deep neural networks, transforms your audio experience. Genuine, device-specific audio training data enables us to easily distinguish between speech and background noise and effectively eliminate unwanted sounds (wind, traffic, background talk), providing you with pristine, uninterrupted communication.

Echo cancellation

Our advanced echo cancellation technology leverages the power of Commend's proprietary **deep neural networks** to deliver unparalleled clarity. Experience smooth and natural conversations without any noticeable echoes or delays, ensuring effective communication every time.

Dynamic volume adjustment

IVC (Intelligent Volume Control) automatically adjusts the loudspeaker volume of the Intercom station depending on the environment noise level – because both, too low and too high a volume, significantly reduces speech intelligibility and the user experience.

Hands-free communication through OpenDuplex®

This technology from Commend, combined with highly sensitive microphones as well as a high volume, allows natural and hands-free communication within a unique radius of several metres.

High volume

When there is ambient noise, the Intercom station has sufficient reserves to put out the audio signal of the other party at a higher volume than any distracting background sounds.

Audio functions adding value

- **Loudspeaker-microphone surveillance** – constant availability of Intercom stations while greatly reducing the manual testing effort.
- **Simplex mode** – for applications requiring controlled communication, e.g. security or industrial solutions based on the push-to-talk/release-to-listen principle.
- **Audio monitoring** – fully automated (emergency) call triggering at defined sound pressure levels for more security.
- **Live sound pressure level** – continuous measurement of ambient noise with optional transfer to a management system through SNMP or HTTPS (e.g. to visualise noise volumes).
- **Equalizer** – for fine-tuning to ambient acoustic conditions.
- **Public address functions** – as an essential element of a holistic solution approach, announcements can be made or played back at every Intercom station as well as responded to directly.

For more information, visit:
audio.commend.com

Cyber security at Commend

Uncompromising protection against threats

IT infrastructures are facing a growing variety of cyber threats. This means that the defensive capabilities of each product in the system environment are key.

Security is above all a question of trust. At Commend, cyber security as a core competence has always been given a very high priority. From the initial product idea through implementation and operational support, privacy and security by design (PSBD) is the uncompromising target and promise to our customers against which product features and functions must be measured.

Cyber security as top priority

- Commend as well as the hardware and software development process is rigurously certified according to the standard **IEC/ISO 27001** and subject to a company-wide information security management system (ISMS)
- Commend is a member of the **Center for Internet Security** (CIS)
- Commend's Cyber Security Board ensures the handling and transparent communication of security vulnerabilities as well as the strategic hardening of Commend systems
- Commend is certified in accordance with the **IEC 62443-4-1** standard. The Commend development team implements secure communication and automation solutions in agreement with „Security by Design" guidelines.
- Commend continuously publishes software updates with security patches and improvements

Physical security

- Robust devices and vandal-resistant product versions
- Tamper detection through electromechanical contacts
- USB and port-debugging protection

Network security

- **Standard IEEE 802.1x** for authentification (network access)
- **Standard IEEE 802.1q** for VLANs (network segmentation)
- Commend IP Secure Connector for automatic interruption of the network connection in the event of a tampering attempt

Data security

- **Encrypted and authenticated communication**
- **SIP over TLS v1.2** with secure cipher suites (> 128 bit)
- **SRTP** for tap-proof encrycption of voice data
- **X.509 client certificates** for authentification and encryption
- TLS transport encryption for the protocols **HTTPS**, **SIPS** and **MQTTS** to protect the web interface, APIs and video

Application security

- Mandatory change of the default password during the first login
- Minimum password length: 12 characters
- Detection of brute-force attacks at login
- Documentation and securing of network ports

Information about the cyber security of other Commend products can be found in the respective data sheets and product manuals.

For more information, visit:
trust.commend.com

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od1
Technical specifications

Technical data od1

IP rating:	IP65 (acc. to EN 60529)
Mechanical impact resistance:	IK07 (acc. to EN 62262)
Front panel:	hardened glass, 3 mm (0.12 in)
Microphone:	digital MEMS microphone
Loudspeaker:	special membrane type for optimal sound quality
Amplifier:	integrated, highly efficient Smart Audio Amplifier
Audio bandwidth:	up to 20 kHz
Audio codecs:	Opus, G.722, G.711 a-law and G.711 u-law
Sound pressure level:	max. 98 dB at 0.5 m (1.6 ft)/92 dB at 1 m (3.3 ft)
Connection:	RJ45 jack for Ethernet and PoE (10/100 Mbit/s) 2 x 2.0 USB (Type A) for external devices [1]
Cyber security:	ISO-27001-certified manufacturer, SIP over TLS, SRTP, IEEE 802.1X, HTTPS for accessing the web interface and interfaces, X.509 certificates
Protocols:	IPv4, IPv6, TLS, TCP, UDP, HTTP (RFC 2617, RFC 3310), HTTPS (RFC 2818), RTP (RFC 3550), 802.1x EAP-TLS (RFC 5216), 802.1x EAP-MD5 (RFC 2284), RTCP, RTSP (RFC 2326), DHCP, DHCPv6, DNSv4, DNSv6, mDNS, SDP (RFC 2327, RFC 4566), SSDP, SIP (RFC 3261), SIP over TLS, SNMPv2c, STUN (classicstun), SMTP, DTMF Decoding (RFC 2976, RFC 2833, SIP Info), ICMPv6 (Router discovery), MQTT (ISO/IEC 20922)
Operating temperature range:	OD1: –40 °C to +70 °C (–40 °F to +158 °F) OD1-B: –40 °C to +65 °C (–40 °F to +149 °F)
Storage temperature range:	–40 °C to +70 °C (–40 °F to +158 °F)
Relative humidity:	up to 95%, not condensing
Power supply [2]:	PoE: IEEE 802.3af/802.3at Type 1 Class 3
Power consumption:	idle: 1.9 W (without accessories) max.: 7.45 W (full load, with accessories)
Cabling:	min. Cat. 5e, shielded [3]
Approvals and compliances:	EN 61000-6-2, EN 61000-6-3, EN 55032 Class B, EN 55035, FCC Part 15 Class B, CEIS-003 Class B EN 60529 IP65, CEI 60068-2-11, EN 62368-1, IEC 62368-1 (CB-Scheme)
Dimensions (H x W x D):	with flush mount kit XDX FB: 228 x 86 x 13 mm (8.98 x 3.39 x 0.43 in) with surface mount kit XDX SH: 228 x 86 x 35 mm (8.98 x 3.39 x 1.38 in) with surface mount kit XDX SHE: 228 x 86 x 60 mm (8.98 x 3.39 x 2.36 in)
Weight incl. packaging:	approx. 700 g (1.54 lbs)
Optional accessories:	AFIL-USB (induction loop kit) EB1E1A (USB I/O module) EB8E8A (USB I/O module) EB3E2A-AUD (expansion module) PA 25W POE-DC (power injector) IP Secure Connector (safety switch box) XDX FBDUR (dummy module for RFID readers)
Wall mounting:	gypsum wall/panel mount kit XDX FB flush mount box XDX FBS (requires XDX FB) surface mount kit XDX SH extended surface mount kit XDX SHE door mullion mounting kit XDX SHMM

Extent of supply

- Intercom station
- TX 08 screwdriver
- Device identification document
- Open source compliance information
- Short reference

System requirements

Server

- VirtuoSIS or
- S3/S6 (or
- Compatible SIP server or
- Serverless operation

Configuration software

- Set-UP

Access

The device can be accessed through IPv4 (DHCP), IPv6 (link-local) and zero-conf. For information on accessing the web interface, see the product manual.

[1] The USB connections are only intended for use with Commend devices. Do not use the USB jacks e.g. to charge mobile phones. If a USB device should be installed separately using a USB extension cable, the USB cable length must not exceed 5 m. In addition to that, it is recommended to attach a ferrite to a USB cable with a length of 1 m or more. To comply with UL 62368-1 (cULus), the length of the USB cable shall not exceed 3.05 m. All USB connectors are declared and proved PS1 USB ports (according to the EN/UL/IEC 62368-1 standard).

[2] For power supply, a PoE switch or PoE injector is required (not included in extent of supply), e.g. IP Secure Connector.

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

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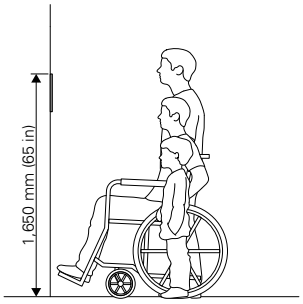
od1
Installation instructions

Installation instructions

- Install the Intercom station with a distance of min. 150 mm (6 in) downwards to allow access to the locking screw (TX08).
- For installing the Intercom station, the following mount kits are available separately: XDX FB, XDX SH, XDX SHE, XDX SHMM, XDX SHID.
- For mounting details, see corresponding short reference of the mount kit.
- Do not install the Intercom station on unstable walls or on surfaces which cannot support the device's weight.
- Make sure the mount kit is not subject to torsional forces (e.g. on uneven walls).
- No water may penetrate into the mount kit.
- For mounting with the surface mount kit XDX SH or the gypsum wall/ panel mount kit XDX FB, it is not possible to use an Ethernet field cable with crimp connector for direct connection to the device due to space limitations.
- If a field cable is used, it is recommended to install an RJ45 crimp jack (e.g. MODJ8-8KUPPL) at the open end of the field cable. Use a patch cable to connect the device to the RJ45 crimp jack.
- Use shielded Ethernet cables only.
- Before using the device, ensure all cables are connected correctly and are not damaged.
- Use moistened microfibre cloths for cleaning the Intercom station.

Recommended mounting height

The upper edge of the Intercom station shall be mounted approx. 1,650 mm (65 in) above the finished floor. Adapt the mounting height to the individual needs.



NOTE: Accessibility

- To provide barrier-free accessibility, it is recommended to mount the Intercom station with sufficient distance to walls or corners.

Safety instructions

- This Intercom station shall be installed or replaced by trained and qualified personnel only.
- Observe the country-specific standards for installation, mounting and configuration.
- Only use Commend accessories that comply with the Intercom station's technical specifications.
- Devices belonging to another earthing network must not be connected to the device's connectors.
- All connected circuits shall fulfil the following requirements:
  - Safety Extra Low Voltage (SELV) and Limited Power Source (LPS) according to IEC/EN 60950-1 or
  - ES1, PS2 circuits and Annex Q (Limited Power Source) according to IEC/EN 62368-1.
- The front of the Intercom station is made of glass. Do not use the Intercom station if the glass is damaged.
- Disconnect the Ethernet cable for any maintenance of the device.
- Do not make any modifications to the Intercom station.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

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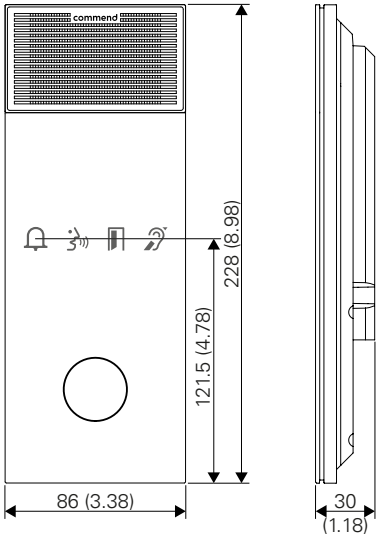
Dimensions

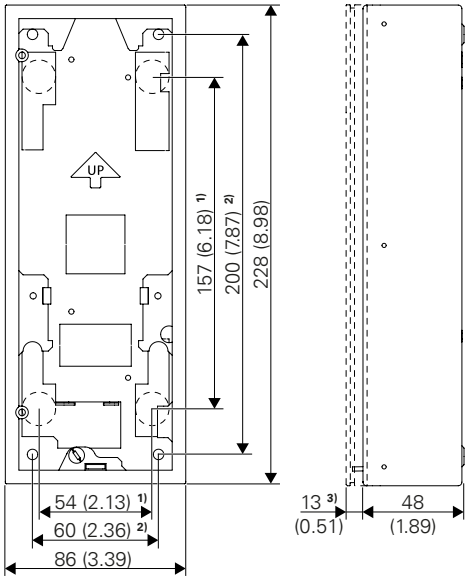
od1

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



Surface mount kit XDX SH

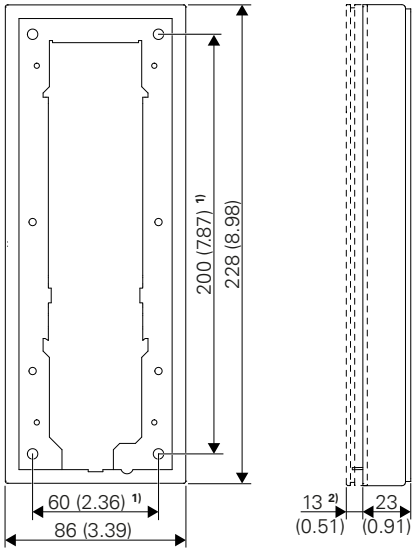
Measuring units in mm (in), not to scale!



1) Dimensions for cable feed-through (ø 14 mm/0.55 in)
2) Dimensions for mounting holes (ø 5 mm/0.2 in)
3) Dimensions of the Intercom station

Surface mount kit XDX SH

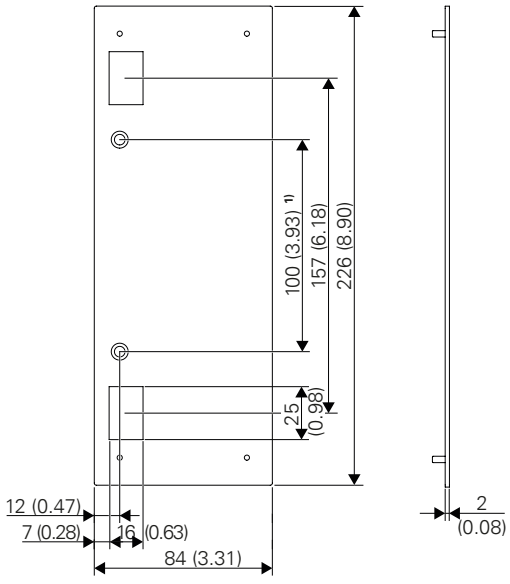
Measuring units in mm (in), not to scale!



1) Dimensions for wall holes (ø 5 mm/0.2 in)
2) Dimensions of the Intercom station

Door mullion mount kit XDX SHMM

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



1) Dimensions for boreholes (ø 5 mm/0.2 in)

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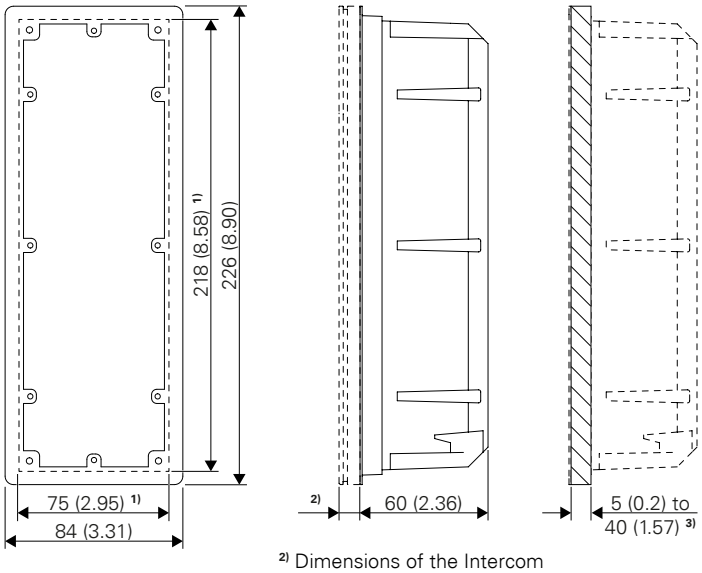
Gypsum wall/panel mount kit XDX FB

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



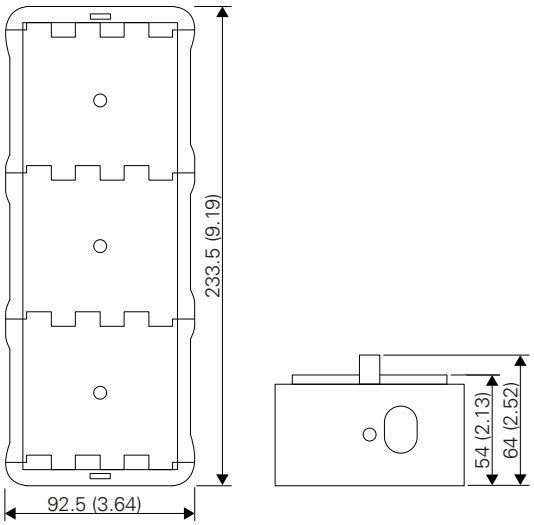
1) Cut-out for wall mounting

2) Dimensions of the Intercom station

3) Wall/panel thickness

Flush mount box XDX FBS

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



NOTE:

For mounting of an Outdoor series Intercom station in the flush mount box XDX FBS, the gypsum/panel mount kit XDX FB is required.

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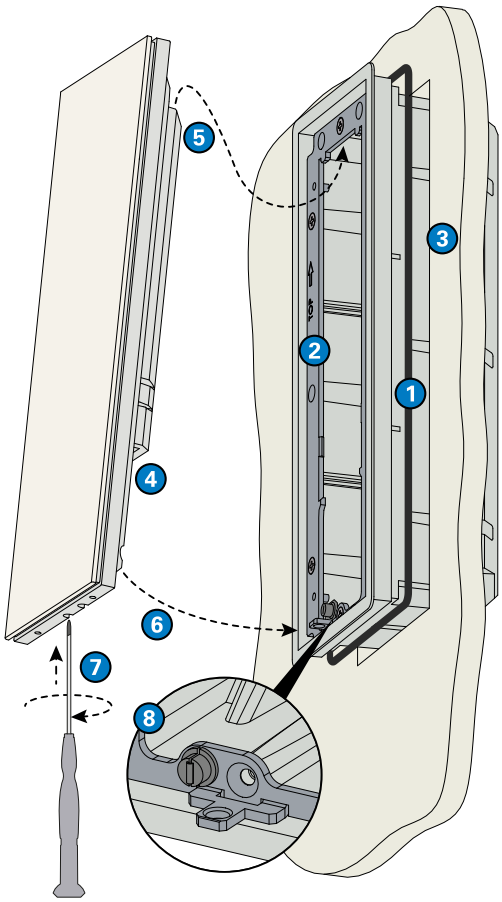
Wall mounting with XDX FB

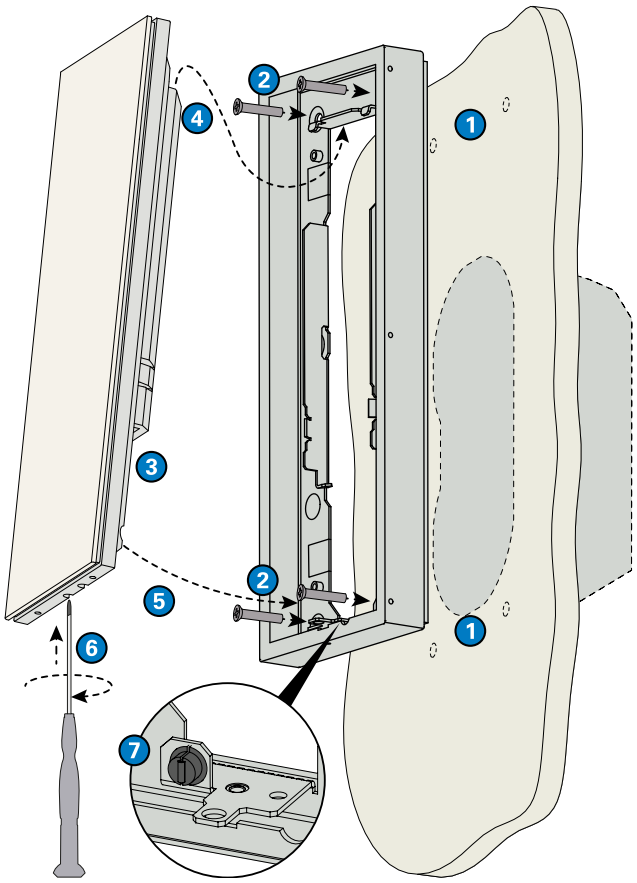


1. If necessary, stick the supplied gasket onto the mounting box.
2. Make sure the arrows on the mounting frame point upwards.
3. Install the mounting box to the wall by means of the supplied drilling template. Press the four claw clamps on the sides of the mounting box outwards and tighten them using the corresponding screws (PZD2).
4. Connect the cables.
5. Insert the Intercom station at the top of the mounting frame.
6. Press the Intercom station with its lower end onto the mounting box.
7. Turn the locking screw anti-clockwise down as far as it will go using the TX8 screwdriver (included in the extent of supply of the Intercom station). Check whether the lower end of the Intercom station is fixed on the mounting frame.

NOTE:
For mounting on brick walls, additionally the flush mount box XDX FBS is required (not included in the extent of supply). In this case, mount the flush mount box XDX FBS in the wall and then continue with 1.

NOTE:
For tamper monitoring, the tamper contact integrated in the Intercom station can be used in combination with the built-in magnet 8 of the mounting kit.

Surface mounting with XDX SH



1. Drill four holes in the wall (see "Dimensions") and insert the supplied wall plugs.
2. Install the surface mount kit to the wall using the supplied mounting screws (the locking element must be at the lower end).
3. Connect the cables.
4. Insert the Intercom station at the top of the surface mount kit.
5. Press the Intercom station with its lower end firmly onto the surface mount kit.
6. Turn the locking screw anti-clockwise down as far as it will go using the Tx08 screwdriver (included in the extent of supply of the Intercom station). Check whether the lower end of the Intercom station is fixed on the surface mount kit.

NOTE:
For tamper monitoring, the tamper contact integrated in the Intercom station can be used in combination with the built-in magnet 7 of the mounting kit.

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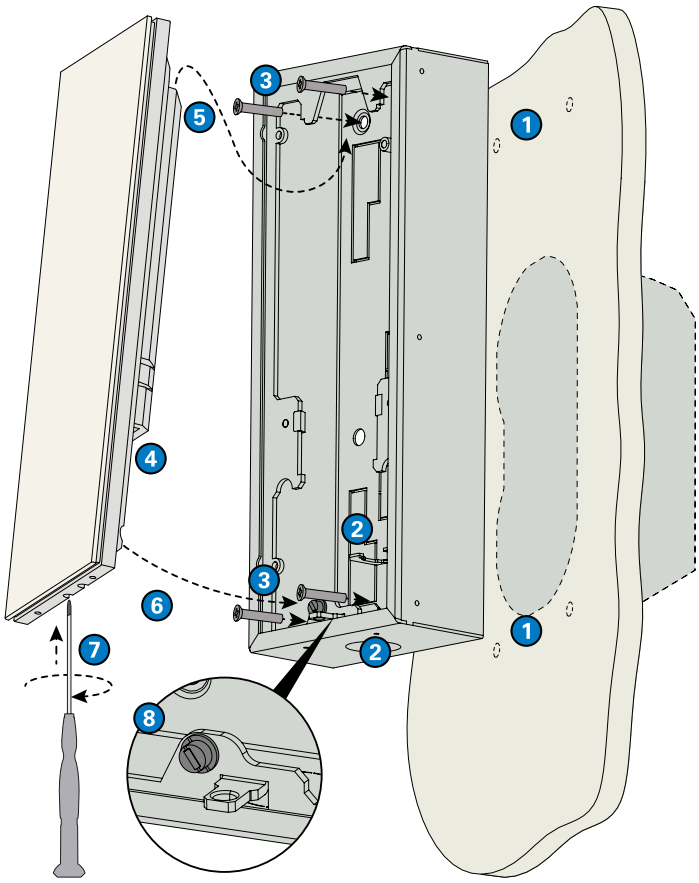
Surface mounting with XDX SHE



1. Drill four holes in the wall (see "Dimensions") and insert the supplied wall plugs.
2. Break out one of the provided cable entries depending on cable supply (see also hatched areas at "Mounting points"). Guide the required cables (Ethernet and USB cable, if needed) through the cable entry.
3. Install the surface mount kit to the wall using the supplied mounting screws (the arrow "UP" must point upwards).
4. Connect the cables.
5. Insert the Intercom station at the top of the surface mount kit.
6. Press the Intercom station with its lower end firmly onto the surface mount kit.
7. Turn the locking screw anti-clockwise down as far as it will go using the Tx08 screwdriver (included in the extent of supply of the Intercom station). Check whether the lower end of the Intercom station is fixed on the surface mount kit.

NOTE:
For tamper monitoring, the tamper contact integrated in the Intercom station can be used in combination with the built-in magnet 8 of the mounting kit.

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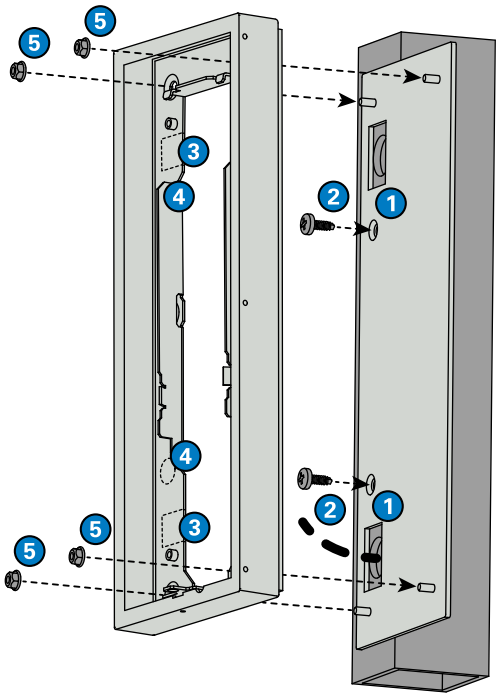
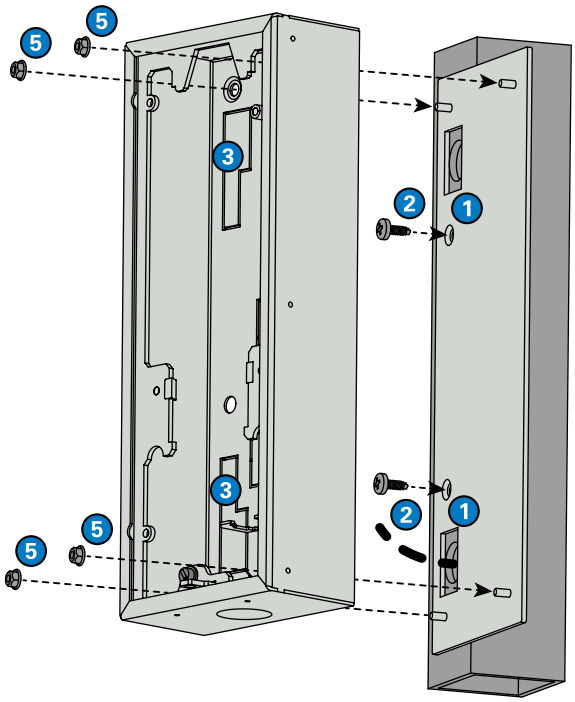
Surface mounting with XDX SHMM

Mounting with XDX SH



Mounting with XDX SHE



1. Drill two mounting holes in the door mullion (see "Dimensions"). A borehole with a diameter of 3.5 mm is required for the supplied self-tapping screws. Prepare a hole for the cable gland.
2. Mount the mounting plate on the door mullion using two self-tapping screws so that the mounting bolts face away from the door mullion. Guide the cable through the opening. The mounting kit is symmetrical and can be installed with the openings on the left or right. It is recommended to seal the mounting plate to the door mullion.
3. Depending on the mounting side, break out the provided cable openings.
4. (Mounting with XDX SHE only) Depending on the mounting side, break out the mounting holes.
5. Mount the surface mount box XDX SH or XDX SHE on the mounting plate using the four nuts.

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