Series WS 800 D

Digital Wallmount Stations Series WS 800F/WS 800P

The multifunctional master stations of series WS 800F/ WS 800P are made in polycarbonate construction for internal and outdoor areas. Besides communication, the stations can carry out control functions in other systems. The amplifier provides the necessary volume in areas with high ambient noise.

The stations are protected against dust, dirt and water jets, which may occur in industrial environments. The special foil on the front panel has a dirt-repellent effect and can be

quickly and easily cleaned using normal cleaning agents and disinfectants. Large foil-type buttons make operation with protective gloves easy.

Typical applications:

Series WS 800F: Production areas, workshops, clean rooms, canteen kitchens as well as internal and outdoor areas.
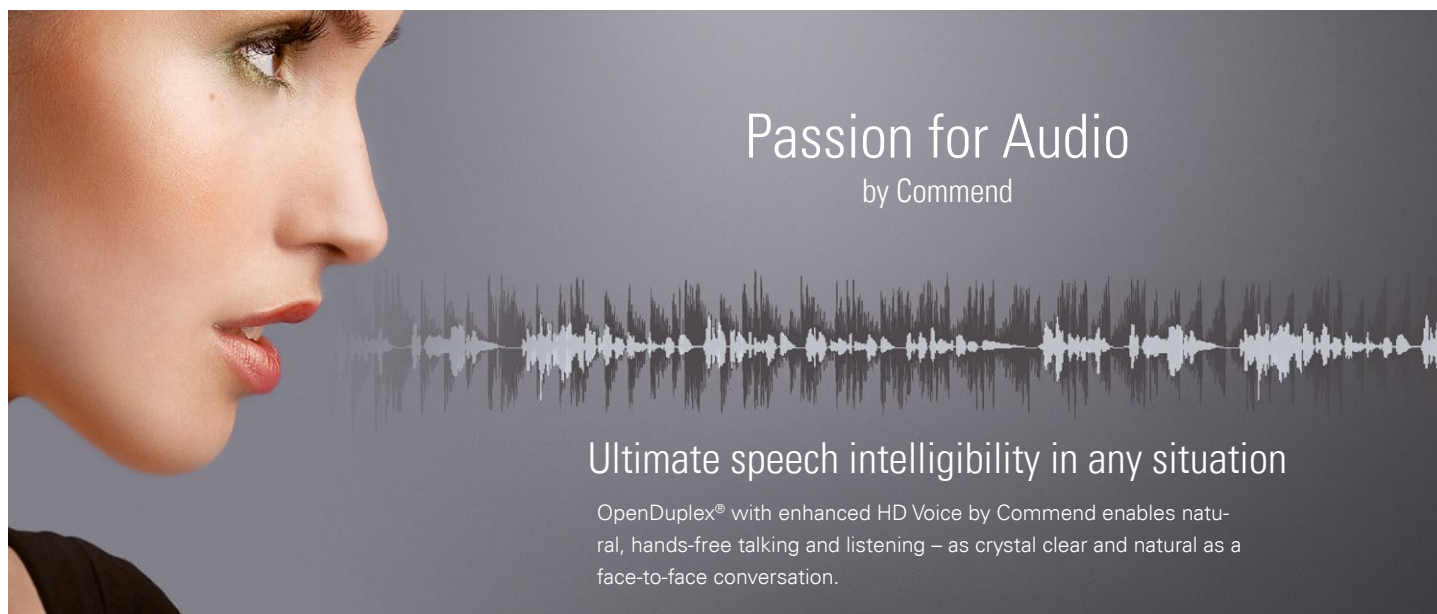Series WS 800P: Classrooms and social areas, stores, workshops, corridors, as outdoor Intercom station on works premises and parking areas.

1. **WS 800F D**
   Digital station with monochrome LCD display with white backlight, back-lit alphanumeric full keypad, function buttons, omnidirectional electret condenser microphone with multifunction LED, loudspeakers 2 x 8 Ω, 3 inputs for floating contacts and 2 relay outputs (connection as normally open or normally closed contact), protection classification IP66, polycarbonate construction, front panel with closed-sealed membrane surface.

2. **WS 800P D**
   Digital station with monochrome LCD display with white backlight, back-lit alphanumeric full keypad, function buttons, omnidirectional electret condenser microphone with multifunction LED, loudspeakers 2 x 8 Ω, 3 inputs for floating contacts and 2 relay outputs (connection as normally open or normally closed contact), protection classification IP66, polycarbonate construction.
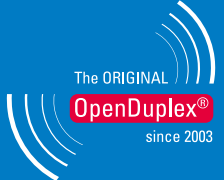
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Passion for Audio
by Commend

Ultimate speech intelligibility in any situation

OpenDuplex® with enhanced 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 Natural communication	**16 kHz** *e*HD Voice enhanced HD Voice	🔊 High volume	**IVC** Intelligent Volume Control	🎤✔ 🔊✔ Loudspeaker/microphone surveillance

AUDIO FACTS

- **eHD Voice** – enhanced HD Voice by Commend transfers the audio signal at a bandwidth of **16 kHz**, thus capturing the entire frequency spectrum of the human voice

- **STI** (Speech Transmission Index) **0.96** – measured under acoustic laboratory conditions (STI is a standard measure for speech intelligibility. It has a possible maximum value of 1.00, which corresponds to perfect intelligibility)

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

- **Audio monitoring** – fully automated emergency calls triggered by shouting/screaming or pre-defined distress sounds – i.e., more security for users

- **Audio recording** and lip synchronous audio/video recording of conversations for documentation and evidence keeping purposes

- **Conference call function** for simultaneous talking with multiple conversation partners

- **Speech activity detection** senses when calls are finished (no microphone signal) and terminates the connection automatically

- **Simplex mode** for applications requiring controlled communication – e.g., security solutions based on the 'push-to-talk/release-to-listen' method

- **OpenDuplex®** for natural for natural, hands-free communication

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

- **Public Address functions**

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Technical Data – Benefits

TECHNICAL DATA

IP rating acc. EN 60529:	IP66
Front panel:	*WS 800P D:* polycarbonate *WS 800F D:* polycarbonate with closed-sealed membrane surface
Microphone:	electret condenser microphone polar pattern: omnidirectional
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 (detection of 5 input states)
Output:	2 relay outputs (switch-over contacts) max. 60 VDC, 2 A, 60 W [1] expected life: min. 5×10^4 (2 A), 10^5 (1 A)
Line output:	for connection of loudspeaker module
Call indication:	multifunction LED (colours: red, green, blue)
Keypad:	alphanumeric full keypad, white backlight activation force: 3 N, 1×10^6 cycles
Display:	monochrome LCD display, 128 x 64 pixel, white backlight
Transmission bandwidth:	16 kHz
Operating temperature range:	*WS 800P D:* –20 °C to 70 °C (–4 °F to 158 °F) *WS 800F D:* –20 °C to 60 °C (–4 °F to 140 °F)
Storage temperature range:	*WS 800P D:* –20 °C to 70 °C (–4 °F to 158 °F) *WS 800F D:* –20 °C to 60 °C (–4 °F to 140 °F)
Relative humidity:	up to 95%, not condensing
Connection:	pluggable screw terminals expansion plug for e.g. EB2E2AHE
Power supply:	from Intercom Server or external supply 12 – 24 VAC or 15 – 35 VDC, power consumption: max. 4 W

Attention:
The operation of the keypad backlight is available with external power supply only! For further information, see "Line Length".

Cabling:	star feed, 2-wired, twisted
Signalling:	2B + D (2 x 64 kBit/s speech, 16 kBit/s data)
Mounting:	flush mount kit WSFB 50P surface mount kit WSSH 50P
Dimensions (W x H x D):	with flush mount kit: 165 x 280 x 13 mm (6.49 x 11.02 x 0.51 in) with surface mount kit: 165 x 280 x 51 mm (6.49 x 11.02 x 2 in)
Weight incl. package:	approx. 820 g (1.80 lbs)
Colour:	front panel: light-grey (like RAL 7035) front panel frame: graphite-grey (like RAL 7024)

[1] The relay output may only be connected to a SELV circuit! A SELV circuit as per IEC/EN 60950-1 must be separated safely from a dangerous electrical circuit (e.g. 230 V or 110 V mains power), e.g. by means of double insulation. The SELV circuit must not exceed 60 VDC or 42.4 VAC_{peak} (30 VAC_{eff})!

EXTENT OF SUPPLY

Intercom station incl. short reference & operating instructions

BENEFITS

- Polycarbonate construction
- Monochrome LCD display
- Back-lit full keypad and function buttons
- Protection classification IP66
- Series WS 800F: Closed-sealed membrane surface, detergent and disinfectant resistant
- Supports DSP features such as OpenDuplex®, Audio Monitoring, loudspeaker/microphone monitoring, etc.

LINE LENGTH

The indicated line length is valid for full stations without connected expansion modules.

GE 800/GE 300

	Power Supply Server		
Cable type	24 VAC	30 VDC	26 VDC
Ethernet cable e.g. Cat. 5 Loop resistance: 125 Ω/km Capacity: 44 nF/km (13.4 nf/1,000 ft)	900 m 2,953 ft[*1] 750 m 2,460 ft[*2]	900 m 2,953 ft[*1] 700 m 2,297 ft[*2]	650 m 2,133 ft[*1] –
Telecommunication cable e.g. F-YAY; ø 0.6 mm; AWG: 22 Loop resistance:133 Ω/km Capacity: 100 nF/km (30.5 nf/1,000 ft)	900 m 2,953 ft[*1] 750 m 2,460 ft[*2]	900 m 2,953 ft[*1] 650 m 2,133 ft[*2]	600 m 1,969 ft[*1] –
External Power Supply:	max. 2,800 m/9,186 ft[*4]		

GE 700/GE 200

	Power Supply Server		
Cable type	24 VAC	30 VDC	26 VDC
Ethernet cable e.g. Cat. 5 Loop resistance: 125 Ω/km Capacity: 44 nF/km (13.4 nf/1,000 ft)	850 m 2,789 ft[*1] 700 m 2,297 ft[*2] 1,600 m 5,249 ft[*3]	800 m 2,625 ft[*1] 650 m 2,133 ft[*2] 1,250 m 4,101 ft[*3]	– – 850 m 2,789 ft[*3]
Telecommunication cable e.g. F-YAY; ø 0.6 mm; AWG: 22 Loop resistance:133 Ω/km Capacity: 100 nF/km (30.5 nf/1,000 ft)	800 m 2,625 ft[*1] 650 m 2,133 ft[*2] 1250 m 4,101 ft[*3]	750 m 2,460 ft[*1] 600 m 1,969 ft[*2] 1250 m 4,101 ft[*3]	– – 800 m 2,625 ft[*3]
External Power Supply:	max. 2,800 m/9,186 ft[*4]		

[*1] …with volume level 9; no display backlight
[*2] …with volume level 9; max. display backlight
[*3] …with volume level 8; no display backlight
[*4] …with full scope of operation

SYSTEM REQUIREMENTS

- GE 800 (min. PRO 800 1.2) with G8-IP (min. G3-8-IP 4.0b01)
- GE 300 (min. PRO 800 1.2) with G3-IP (min. G3-8-IP 4.0b01)
- VirtuoSIS/S3/S6 with ET 901-D (min. firmware version 3.0)
- Configuration software min. CCT 800 1.2
- Configuration software IP Station Config (included in setup of CCT 800 1.2)

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Installation

SAFETY INSTRUCTIONS

- When opening the stations, ESD precautions must be observed.
- The stations may only be opened by authorised service engineers.
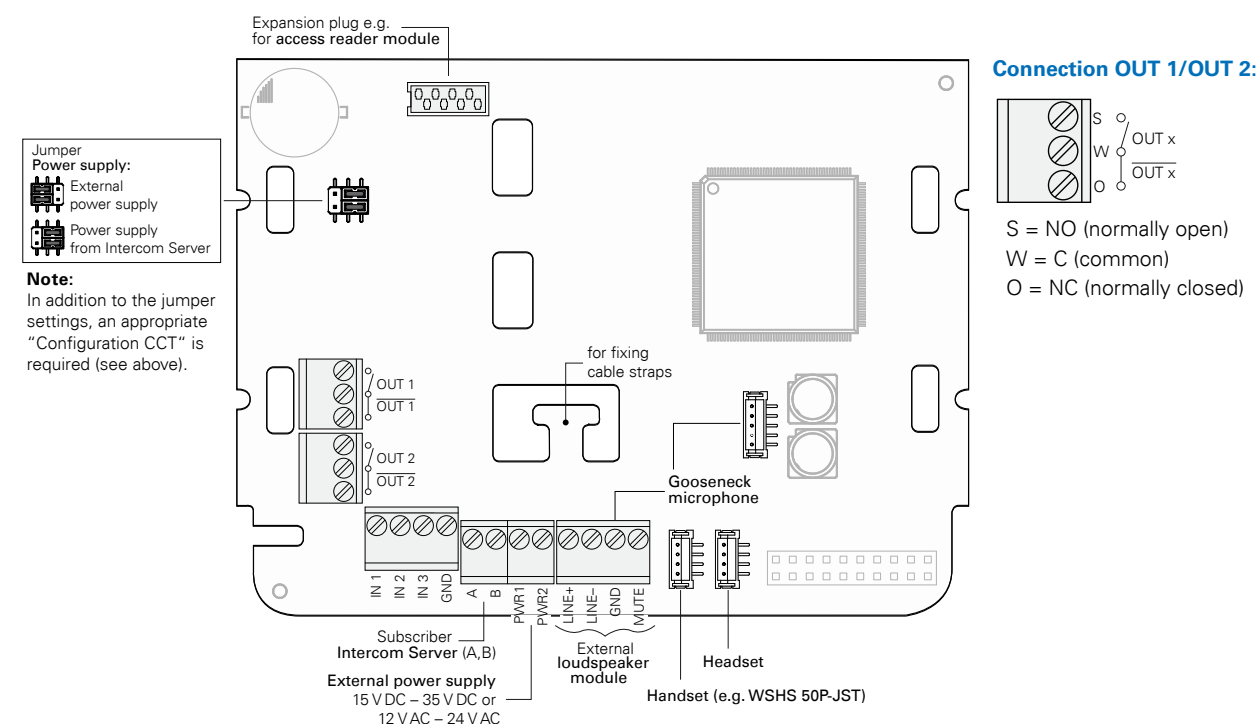
CONFIGURATION CCT

Use of 2 relay outputs at GE 700 / GE 200:

- To be able to use both relay outputs at a GE 700 / GE 200 Intercom Server, the station type "EE342" or "EE342A" has to be configured for the WS station via the configuration software CCT 800 at "Station properties".
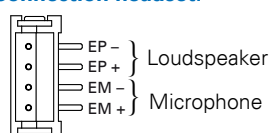- Thus, the relay outputs "OUT 1" and "OUT 2" can be activated at "Station properties" – "EE342".

External power supply / keypad backlight:

- For an external power supply of the station, the checkbox "**External power supply**" has to be activated via the configuration software CCT 800 at "Subscriber" – "Station properties" – "WS series" – "WS 800" – tab "Display, Keypad, General" (in addition to the jumper settings described at "Connection").
- The configuration of the keypad backlight is only possible with external power supply. This means, the checkbox "External power supply" must be activated!
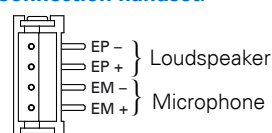
CONNECTION

Connection OUT 1/OUT 2:

S = NO (normally open)
W = C (common)
O = NC (normally closed)

Connection headset:

EP – ⎫ Loudspeaker
EP + ⎭
EM – ⎫ Microphone
EM + ⎭

Note: The headset socket has to be activated via an ICX message (see below).

Connection handset:

EP – ⎫ Loudspeaker
EP + ⎭
EM – ⎫ Microphone
EM + ⎭

ICX message for connection headset:

Microphone / loudspeaker	Task	Type	Data (variable length)	Server-SW
Switchover microphone / loudspeaker (subscriber)	40	92	TTTT 050Z	Pro 800 2.1

Variable TTTT → 4-digit call number of the subscriber
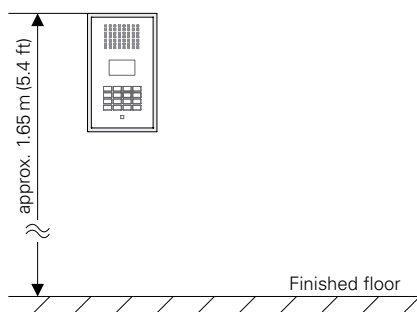Variable Z → 0 = deactivate; 1 = activate; 2 = toggle

Installation

MOUNTING INSTRUCTIONS

- Do not expose the station to extreme temperatures (see "Technical Data").
- For flush mounting, a flush mount kit WSFB 50P (available separately) is required.
- For surface mounting, a surface mount kit WSSH 50P (available separately) is required.

Recommended mounting height
The upper edge of the station approx. 1.65 m (5.4 feet) from the finished floor. Adapt the mounting height to the individual needs.

approx. 1.65 m (5.4 ft)

Finished floor

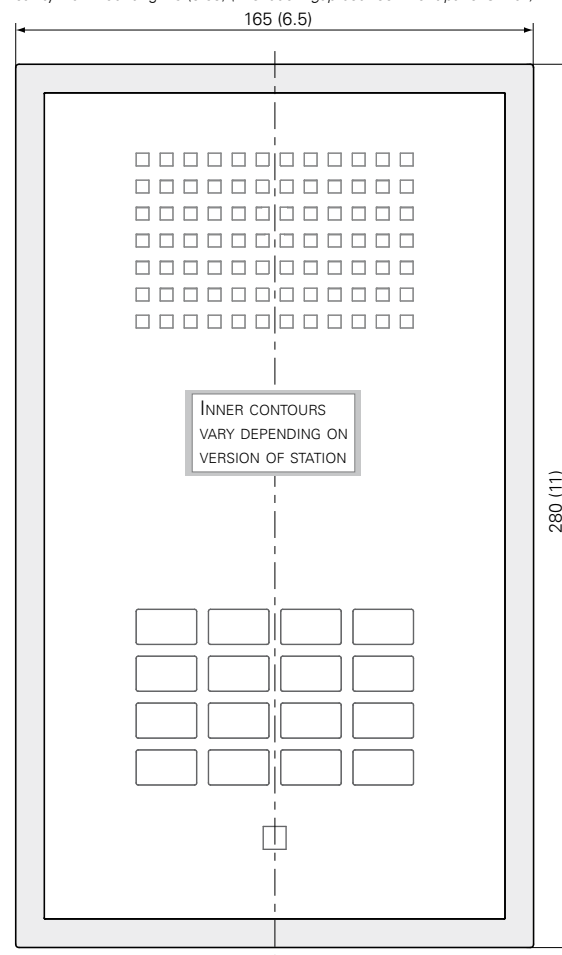**Mounting recommendations WS 800F**
Due to sealed microphone and loudspeaker openings, closed-sealed membrane surface stations have acoustic limitations. For that reason, consider the recommendations below when planning the system (see also page 6).

- Ideally, the station is mounted close to the speaker.
- The optimal speaking distance is between 0.3 m to 1 m.
- If it is not possible to mount the station in the recommended position (e.g. due to constructional limitations), a remote microphone can be installed in order to enhance speech quality.
- In case of high ambient noise (>75 dB) or great speaking distances, it is recommended to install additional loudspeakers (e.g. WSLM 52F or WSLM 56F).

DIMENSIONS FRONT PANEL

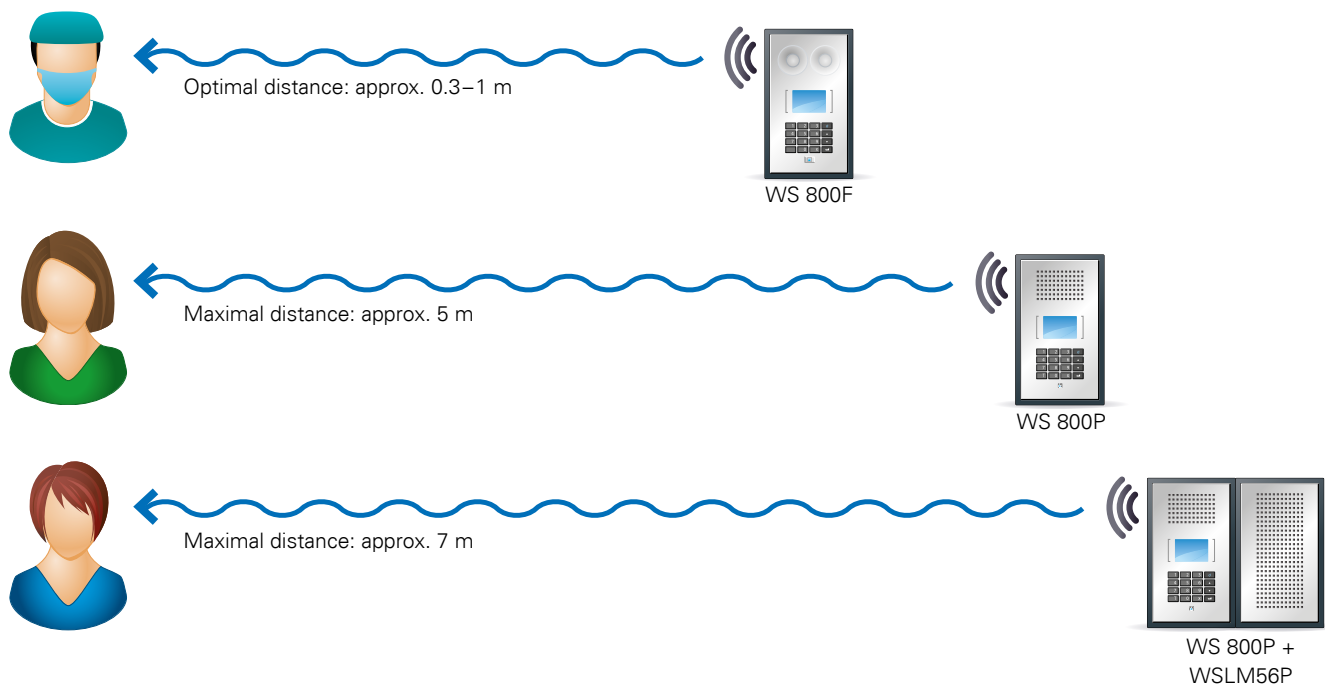Measuring units in mm (inch), not to scale!

Depth: 13 (0.51)
cavity wall mounting: 15 (0.59) (⇨ *shadow gap between front panel & wall*)

165 (6.5)
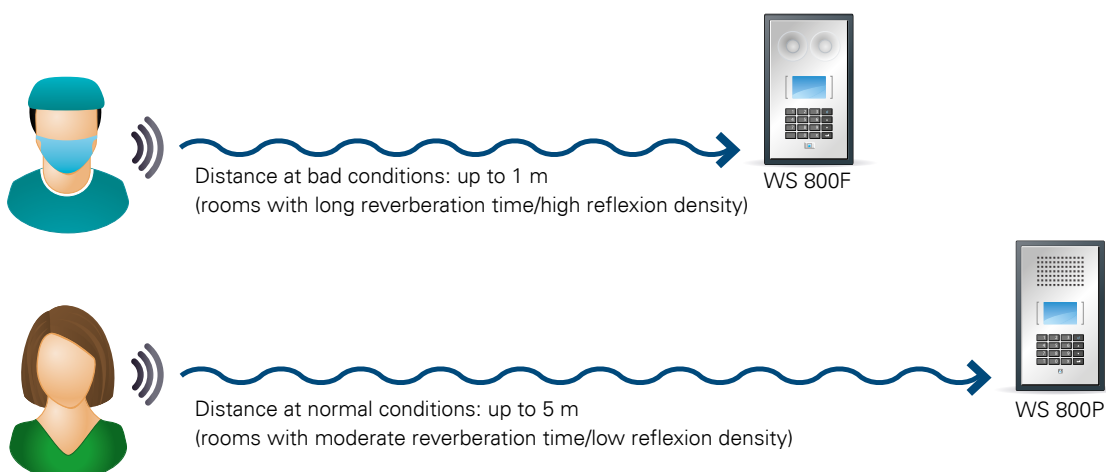

INNER CONTOURS VARY DEPENDING ON VERSION OF STATION

280 (11)

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Installation

LISTENING DISTANCE

Depending on the station's version, consider the following listening distances.

Optimal distance: approx. 0.3–1 m

WS 800F

Maximal distance: approx. 5 m

WS 800P

Maximal distance: approx. 7 m

WS 800P +
WSLM56P

SPEAKING DISTANCE

Depending on the station's version, consider the following listening distances.

Distance at bad conditions: up to 1 m
(rooms with long reverberation time/high reflexion density)

WS 800F

Distance at normal conditions: up to 5 m
(rooms with moderate reverberation time/low reflexion density)

WS 800P

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