

PRA-CSBK Call station kit, basic

PRAESENSA



The basic call station kit is an open frame call station to create dedicated full custom operator panels for PRAESENSA Public Address and Voice Alarm systems. It has the same functionality as the PRA-CSLW, but without LCD user interface to facilitate easier mounting in operator desks or in wall-mounted fireman's panel enclosures.

It comes with a detachable, supervised omnidirectional fist microphone for close talking with press-to-talk button and a separate small monitor loudspeaker.

The kit has a CAN-bus interface on RJ12 to one or two PRA-CSEK Call station extension kits for connection of selection switches and status indicator LEDs, or to connect to a full custom control board with switches and indicators. The interface is compatible with the PRA-CSE and one to four of these devices can be connected.

The kit only requires a connection to an OMNEO IP-network with Power over Ethernet (PoE) for communication and power supply combined. It can be configured as business and emergency call station.

The PRA-CSBK is considered a component that must be installed in a final product. The final product must be reconfirmed to meet applicable EMC directives.

Functions

IP-network connection

- Direct connection to the IP-network. One shielded Ethernet cable is sufficient for Power over Ethernet and data exchange.
- Connect a second shielded Ethernet cable for dual redundancy of network and of power connection.

- ▶ Basic open frame call station for custom call panel solutions without LCD
- ▶ Supervised fist microphone with coiled cable and loudspeaker included
- ▶ CAN-interface to extensions or extension kits for selection switches and status indicators
- ▶ Connections for power LED and status LEDs
- ▶ Dual OMNEO IP-network connection and redundant Power over Ethernet

- Integrated network switch with two OMNEO ports allows for loop-through connections to adjacent devices (at least one must provide PoE). Rapid Spanning Tree Protocol (RSTP) is supported to enable recovery from failing network links.

Business operation

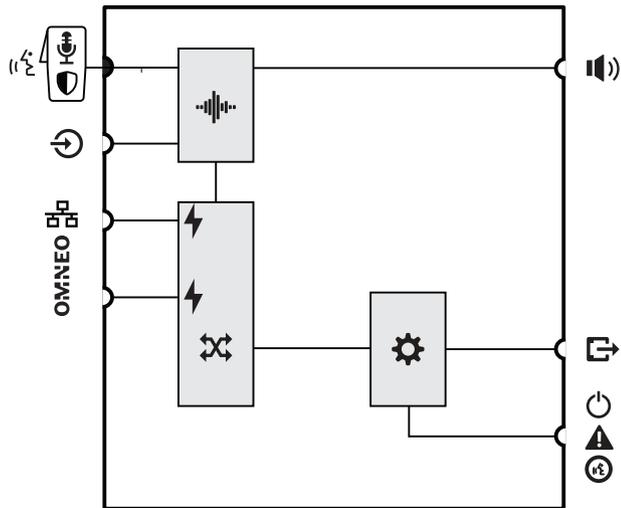
- Press-to-talk switch on fist microphone. Without call station extension panels connected, the press-to-talk switch can be used to make calls to a pre-configured set of zones.
- Fixed level monitor loudspeaker.
- Local audio line input (with stereo to mono conversion) for connecting an external audio source. The audio channel will be available on the network and can be played in any loudspeaker zone.
- CAN-bus interface with power supply on RJ12 connector for connection to a full custom user interface board with selection switches and status indicator LEDs. This connection can also be used for up to four cascaded PRA-CSE Call station extension panels or up to two cascaded PRA-CSEK Call station extension kits.

Emergency operation

- The basic call station kit fully complies to the standards for voice alarm applications when configured correctly in combination with one or more call station extensions or a custom user interface panel. The PRA-CSBK is considered a component that must be installed in a final product. The final product must be reconfirmed to meet applicable voice alarm standards, or must be certified.

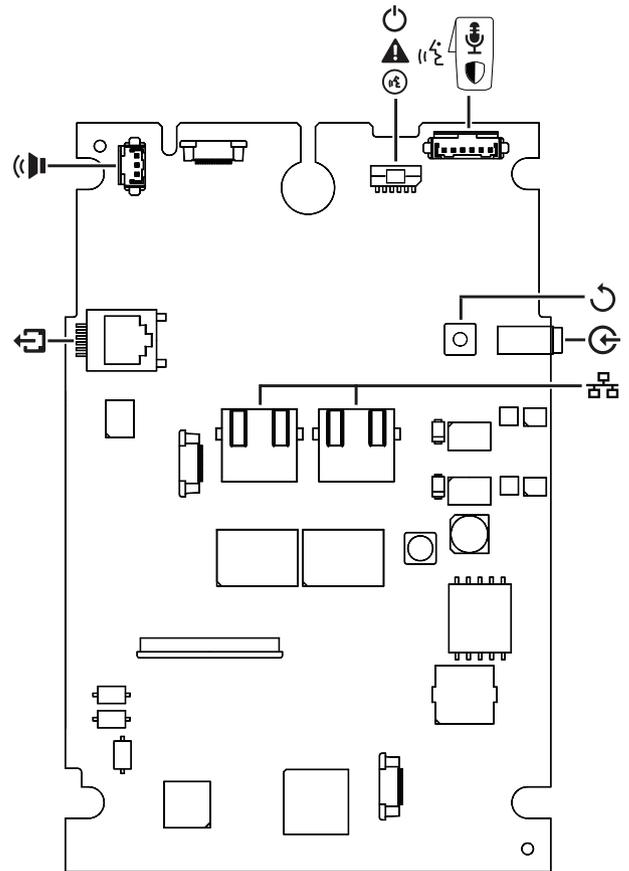
- Each of the two RJ45 network connectors accept PoE to power the call station. This provides fail-safe network connection redundancy, as one connection is sufficient for full operation.
- Supervision of all critical elements; the audio path is supervised, as well as the communication to the network.

Connection and functional diagram



	Supervised fist microphone with Press-To-Talk switch		Audio processing (DSP)
	Power over Ethernet		OMNEO network switch
	Controller		

Top side



Top side indicators

	100 Mbps network 1-2 1 Gbps network 1-2	Yellow Green
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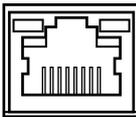
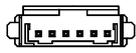
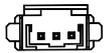
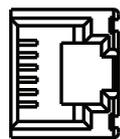
External indicators

	Power on Device in identification mode	Green Green blinking
	System fault present	Yellow
	Status business call Microphone active Chime/message active	Green Green blinking
	Status emergency call Microphone active Alarm tone/message active	Red Red blinking
	Identification mode / Indicator test	All LEDs blink

Top side controls

	Device reset (to factory default)	Button
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Top side interconnections

	Network port 1-2 (PoE PD)	
	Microphone with Press-To-Talk switch	
	Local source audio line input	
	Monitor loudspeaker	
	PRA-CSE(K) interconnection (RJ12)	
  	LED indicators for power, system fault and call/ microphone status	

External components

	Microphone with Press-To-Talk switch	Included
	Monitor loudspeaker	Included

Architects' and engineers' specifications

The IP-networked call station kit shall be designed exclusively for use with Bosch PRAESENSA systems. The call station kit shall provide an interface for control data and multi-channel digital audio over OMNEO using dual Ethernet ports for redundant network connection, supporting RSTP and loop-through cabling. It shall receive Power over Ethernet (PoE) via either one or both network connections. The call station kit shall have a CAN-bus to interface with call station extensions or a custom built user interface panel for zone selection and other purposes. It shall provide control and routing of live speech calls, stored messages and music with volume control per zone. The call station kit shall have a detachable, omnidirectional fist microphone for live calls and a 3.5 mm jack line level input for background music, and provide software-configurable signal processing including sensitivity control, parametric equalization and limiting. The call station kit shall be marked for CE, and be compliant with the RoHS directive. Warranty shall be three years minimum. The call station kit shall be a Bosch PRA-CSBK.

Regulatory information

Regulatory areas

Environment	EN/IEC 63000
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Parts included

Quantity	Component
1	Call station circuit board
1	Microphone with coiled cable and connector
1	Grommet with connector socket and extension cable
1	Grommet lock
1	Miniature loudspeaker
1	Interconnection cable for loudspeaker
1	Interconnection cable for indicators
1	Interconnection cable for extension
1	Set of mounting studs and grommets
4	Self-tapping screw (3 x10 mm TX10)
1	Microphone bracket
1	P-clip for microphone cable
1	Quick installation guide

Technical specifications

Electrical

Microphone

Nominal acoustic input level (dB SPL) (configurable)	89 dB SPL – 109 dB SPL
Maximum acoustic input level (dB SPL)	120 dB SPL
Minimum signal-to-noise ratio (dBA)	73 dBA
Self noise (dB SPL)	< 28 dB SPL
Polar pattern	Omnidirectional
Frequency response (Hz)	500 Hz – 8,000 Hz (noise cancelling)
Cable length (cm)	300 cm (stretched)

Monitor loudspeaker

Maximum sound pressure level, at 1 m	75 dB SPL
Volume notification buzzer (dB)	0 dB
Volume message monitoring (dB)	-20 dB
Frequency range (-10 dB) (Hz)	400 Hz – 8,000 Hz

Line input

Minimum signal-to-noise ratio (dBA)	96 dBA
Frequency response (-3 dB) (Hz)	20 Hz – 20,000 Hz
Total harmonic distortion + noise (%)	0.10%

Power transfer

PoE input	PoE IEEE 802.3af Class 3
Nominal voltage (VDC)	48 VDC
Input voltage (VDC)	37 VDC – 57 VDC
Power consumption (W) (business use)	3.2 W
Power consumption (W) (emergency use)	4.4 W
Maximum load of extension(s)	5 W

Supervision

Microphone	Impedance
Audio path	Pilot tone
Press-to-talk switch	Impedance
Controller continuity	Watchdog
PoE (1-2)	Voltage

Network interface

Ethernet type	100BASE-TX; 1000BASE-T
Ethernet protocol	TCP/IP
Redundancy	RSTP
Audio/control protocol	OMNEO
Latency (ms)	10 ms
Audio encryption	AES 128

Security	TLS
Number of Ethernet ports	2

Reliability

Mean time between failures (MTBF) (h) (extrapolated from calculated MTBF of PRA-CSLD and PRA-CSLW)	1,000,000 h
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Environmental

Operating temperature (°C)	-5 °C – 45 °C
Operating temperature (°F)	23 °F – 122 °F
Storage temperature (°C)	-30 °C – 70 °C
Storage temperature (°F)	-22 °F – 158 °F
Operating relative humidity, non-condensing (%)	5% – 95%
Air pressure (hPa)	560 hPa – 1,070 hPa
Installation altitude (m)	-500 m – 5,000 m
Installation altitude (ft)	-1,640 ft – 16,404 ft
Vibration (operation)	
Amplitude	< 0.35 mm
Acceleration	< 5 G
Bump (transport)	< 10 G (IEC 60068-2-27)

Mechanical

Dimensions (H x W x D) (mm)	20 mm x 110 mm x 162 mm
Dimensions (H x W x D) (in)	0.8 in x 4.3 in x 6.4 in
Weight (g) (excluding accessories)	120 g
Weight (lb) (excluding accessories)	0.26 lb

Ordering information

PRA-CSBK Call station kit, basic

Network connected, PoE powered, with detachable fist microphone.

Order number **PRA-CSBK | F.01U.389.020**

Accessories

PRA-CSEK Call station extension kit

Extension to PRA-CSBK to connect up to 24 configurable switches and associated status indicators.

Order number **PRA-CSEK | F.01U.420.426**

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