

# Battery less telephone system

## BLTS-1006



### Description

The BLTS-1006 battery less telephone system ensures telephone communication both in routine operation and emergencies, when communication control or power systems fail.

### Features

- The system provides pair, broadcast, selective and conference communication among the stations (max 24).
- The system can be used as public address system.
- Communication and addressed calls are available from any system unit.
- Communication in harsh environments:
  - when applied respiratory protection (using portable communication devices with microphones);
  - in noisy areas, max 130 dB (using headset or intercom helmet).
- LEDs for power, call and inductor state of health.
- Light and sound signals for incoming calls.
- A headset and external in-call light signaling units can be connected.
- Automatic switchover to standby power in case of a power supply failure.
- Various configurations of telephone networks can be designed (subscribers are connected by dedicated or multiple channels).
- Depending on the modification, the units can be installed on open decks or inside, including noisy areas; hinge, desktop or console mounting.

### Technical specifications of the system

Power supply voltage	batteryless (energy is supplied from generator rotation and accumulated energy); external, from the mains 24V (18...36V DC), loudspeaker mode
Number of users	2-24 (expandable) Parallel connection devices: 1-line- PH-1LA, PH-1L, PH-1LR, PH-1RW; 12-line - PH-12L, PH-12LR, PH-12LWP, PH-12LWP; 24-line - PH-24L, PH-24LR, PH-24RW, PH-24LWP. Switching units (with isolated lines): 6-channel - PH-6, PH-6A; 12-channel - PH-12, PH-12A; 20-channel - PH-20, PH-20A.
Operating mode	Battery less communication, loudspeaker (if external power supply is available)
Communication time (self-contained power supply)	For pair communication - min 10 min (after 1 rotation cycle of generator with the rate of rotation 3 rev/s within 3-5 s)
Communication line length	max 400 m
Functional capabilities	two types of in-calls signals; caller number identification (for devices equipped with LCD); call mode selection (with or without camp-on)
Operating temperature	-15...+55 °C – installation inside; -40...+55 °C – installation on open decks.

### Telephone sets

Number of lines	Name	Connection			IP rating	Notes
		headset	extra in-call alarm	relay unit		
1	PH-1LA (w/amplifier)	+		+	IP44	Relay unit can be connected
	PH-1L	+			IP44	
	PH-1LR	+	+	+	IP44	
	PH-1LW	+	+	+	IP56	Waterproof
12	PH-12L	+			IP44	
	PH-12LR	+	+	+	IP44	
	PH-12LRW	+	+	+	IP56	Waterproof
	PH-12LWP	+			IP56	Portable, waterproof
24	PH-24L	+			IP44	1
	PH-25LR	+	+	+	IP44	
	PH-24LRW	+	+	+	IP56	Waterproof
	PH-24LWP	+			IP56	Portable, waterproof
Telephone / switching units						
6	PH-6A (w/amplifier)	+	+	+		
12	PH-12A (w/amplifier)	+	+	+		
20	PH-20A (w/amplifier)	+	+	+		
<b>Note:</b> Operating temperature depends on design: -15...+55°C - IP44 telephones - 40...+55°C - IP56 telephones						



### Switching units

- SB-12A** – Switching unit with a built-in PSU (18-36V/24V DC) and amplifier allows the connection of 12 telephone lines, IP22.  
**SB-24A** – Switching unit with a built-in PSU (18-36V/24V DC) and amplifier allows the connection of 24 telephones lines, IP22.

### Cabinets

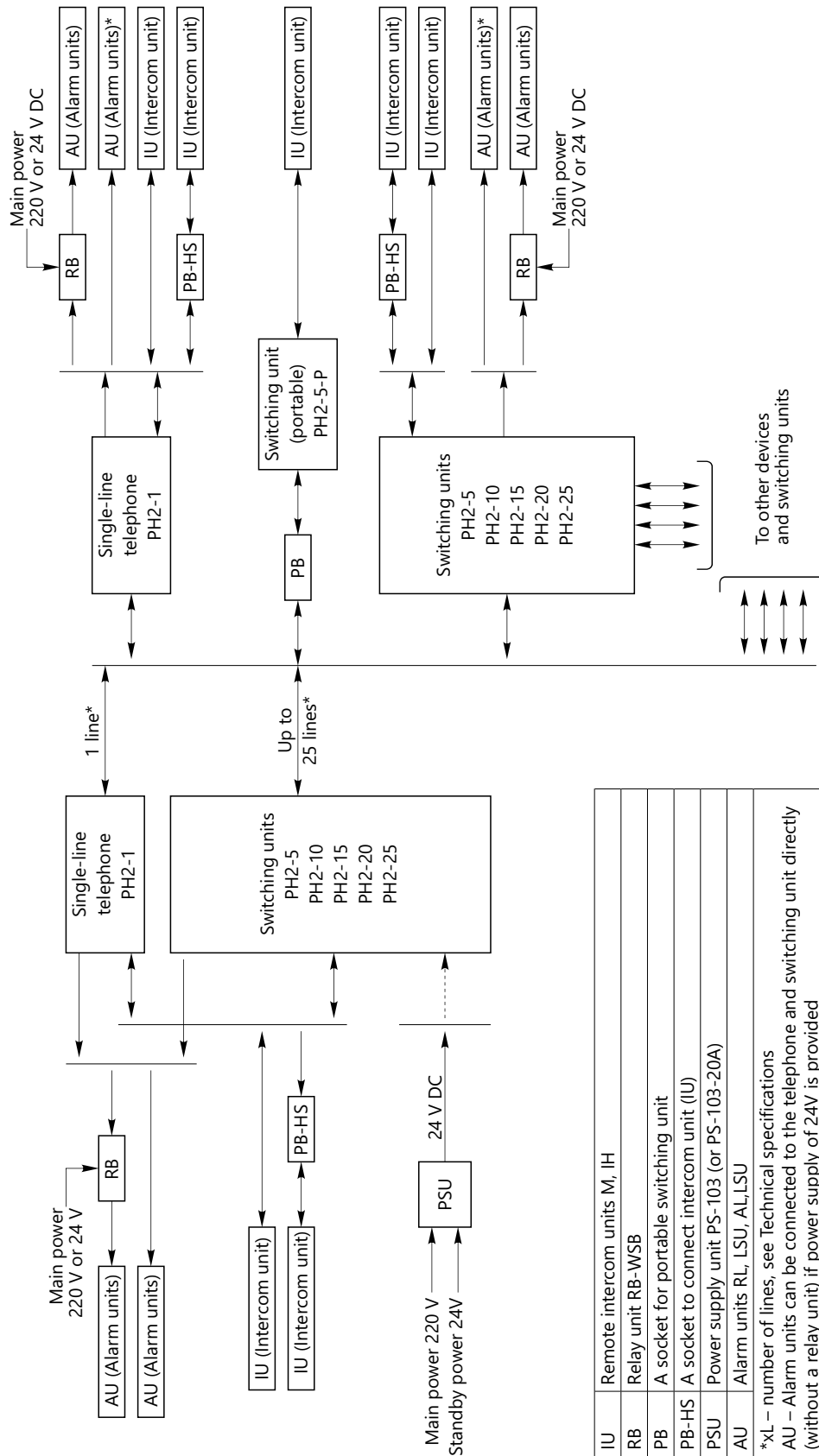
- MBOX**– A metal cabinet for hinge mounting, for telephone units PH-xx, PH-xxLR, PH-6x. IP44.  
**WBOX** – A wooden case/box for hinge mounting, for telephone units PH-xx, PH-xxLR, PH-6x. IP22.  
**MBOX2**– A metal cabinet for hinge mounting, for telephone units PH-12x, PH-20x. IP44.  
**WBOX2** – A wooden case/box for hinge mounting, for telephone units PH-12x, PH-20x. IP22.  
**BTS2-BO** – A waterproof cabinet to house telephones (for PH-xx, PH-xxLR and switching units PH-6A, PH-12A, PH-20A), IP56.

### Peripheral equipment

- HS-2P** – Headset with 3m cable, manual switch and connector, IP56.  
**HS-2**– Headset with 3m cable, manual switch, IP56.  
**RB-WSB-220** – Relay unit, 220V, 50/60Hz to connect call annunciators, with a call button. IP56.  
**RB-WSB-24** – Relay unit, 24V DC, to connect call annunciators, with a call termination button, IP56.  
**PB-HS** – A socket to connect headset, IP56.  
**S-PH-24WP** – A socket to connect portable telephone (12 and 24 lines), IP56.  
**CG-xx** – Standard cord growth of external intercommunication devices, IP56.  
**FL24** – A flashing impulse lamp (beacon), IP56.  
**RL24** – A flashing lamp, rotating (24V DC), IP56.  
**RL220** – A flashing lamp, rotating (220V, 50/60Hz), IP56.  
**A-24** – Signaling unit (24V DC), waterproof, IP56.  
**A-220** – Signaling unit (220V, 50/60Hz), waterproof, IP56.  
**AL-24** – Sound and light signaling unit (24V DC), waterproof, IP56.  
**AL-220** – Sound and light signaling unit (220V, 50/60Hz), waterproof, IP56.  
**LSU-24** – Light signaling unit (24V DC, power consumption 7.5 W), IP56.  
**LSU-220** – Light signaling unit (220V AC, 50/60 Hz, power consumption 8.5W), IP56.

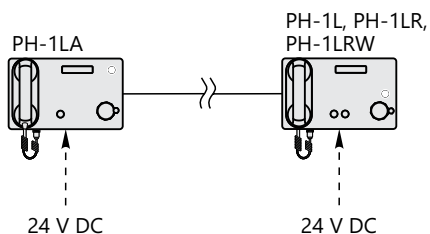


## Structural diagram of the system

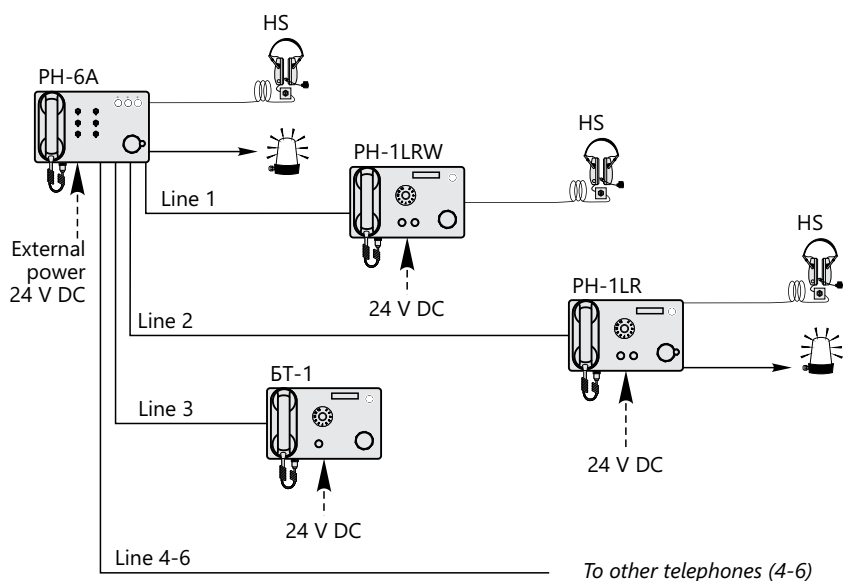


## Network configuration of the BLTS-1006M system

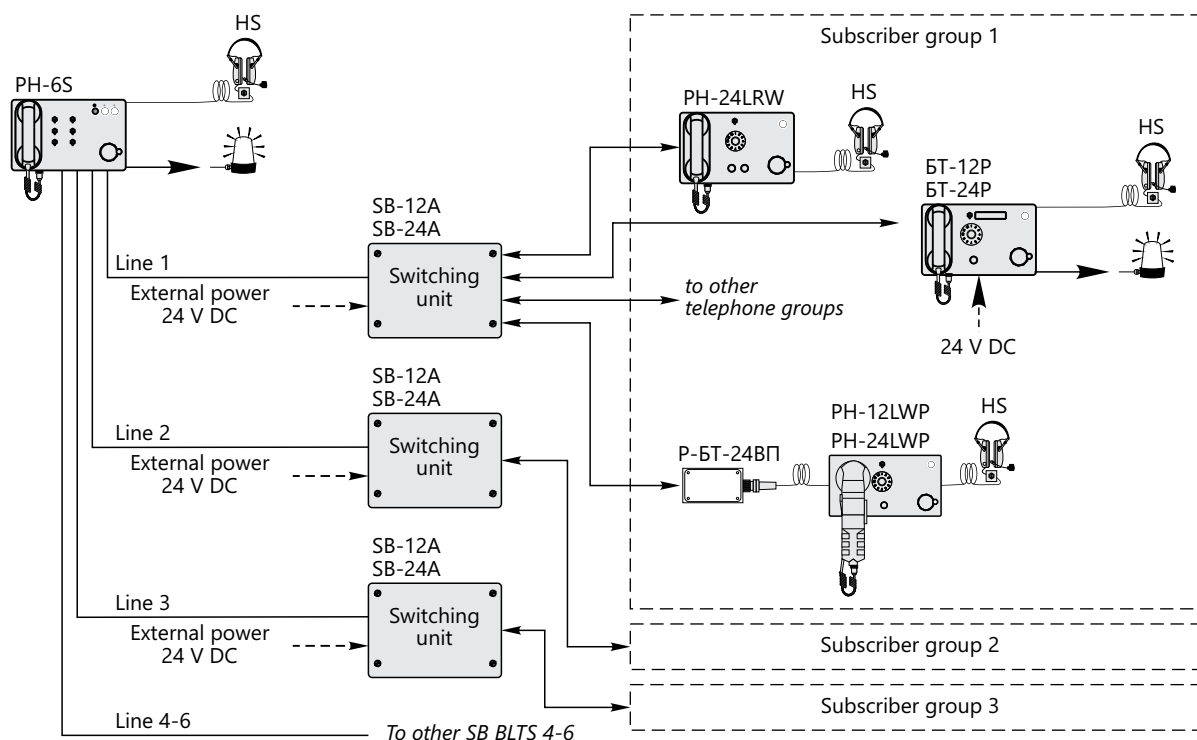
### Sample of pair communication



### Sample of communication with node paths (using switching unit and telephones)



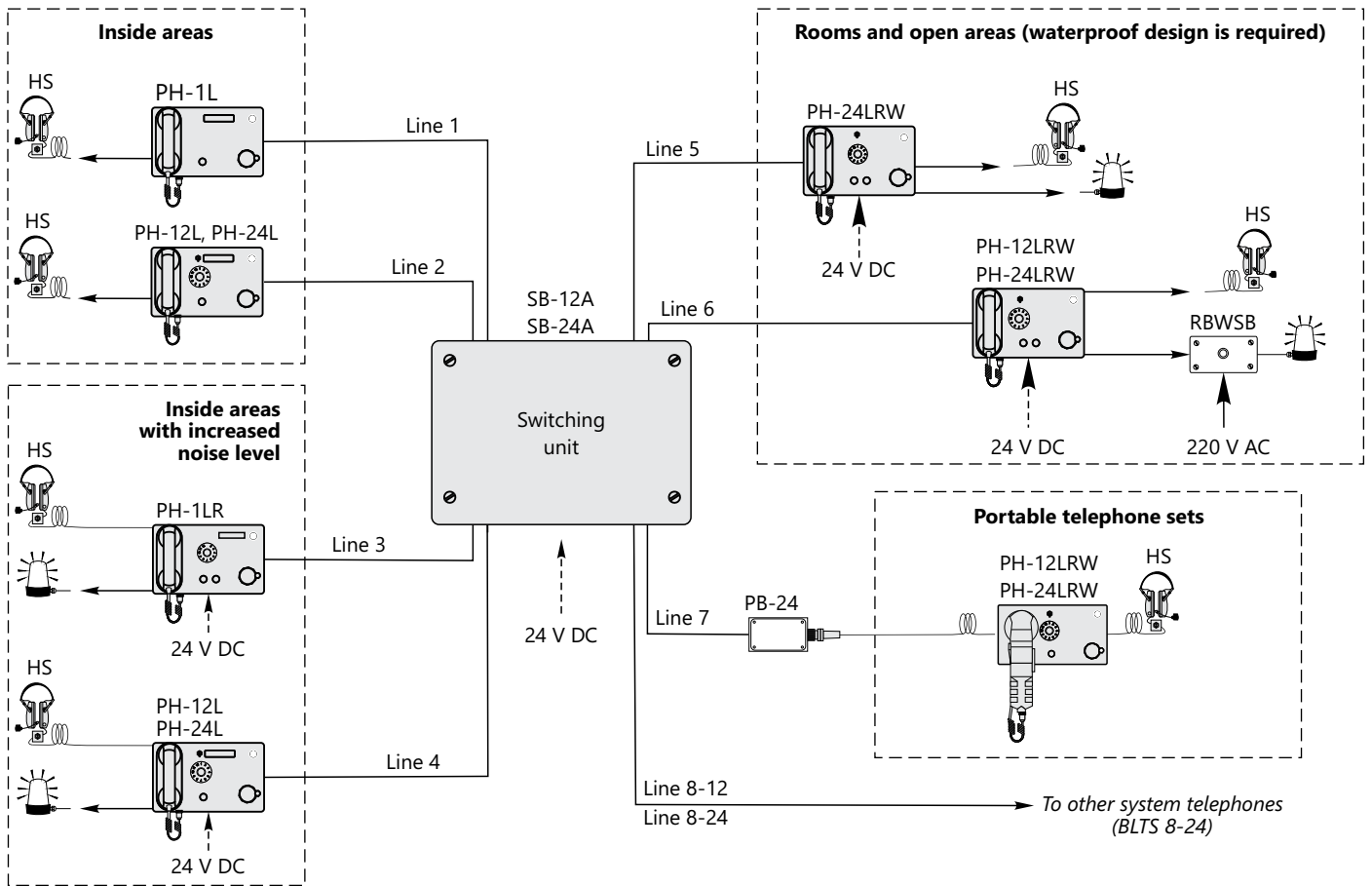
### Sample of combined communication



# Battery less telephone system BLTS-1006



## Sample of switching communication



### System units



#### PH-1LA telephone unit

One line telephone unit (including amplifier) ensures battery less direct (pair) communication.

- Built-in amplifier
- Backlight of LCD and control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- External signaling units and headset can be connected

#### Technical characteristics:

Max power consumption: 6 W  
 Number of users: 1  
 IP rating: IP44  
 Operating temperature: 15...+55 °C  
 Weight: 1.7 kg

#### Mounting type:

Console-mounted  
 Wall-mounted with MBOX, WBOX

#### Accessories:

Headsets: : HS-3, HS-3M, HS-5, HS-5M, HS-5A  
 Intercom helmets: IH-4M(S), IH-4M(S)-P  
 Relay unit RB-WSB



#### PH-1L, PH-12L, PH-24L telephone units

Telephone units for 1/12/24 lines used for battery less communication.

- Backlight of LCD and control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- Headset can be connected

#### Technical characteristics:

Max power consumption: 3W  
 Number of users: 1 / 12 / 24  
 IP rating: IP44  
 Operating temperature: 15...+55 °C  
 Weight: 1.7 kg

#### Mounting type:

Console-mounted  
 Wall-mounted, applying MBOX, WBOX  
 Bracket-mounted, cabinet WBOX

#### Accessories:

Headsets: : HS-3, HS-3M, HS-5, HS-5M, HS-5A  
 Intercom helmets: IH-4M(S), IH-4M(S)-P



#### PH-1LR, PH-12LR, PH-24LR telephone units

Telephone units for 1/12/24 lines used for battery less communication.

- Battery less telephone and loudspeaker modes
- Backlight of LCD and control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- External signaling units and headset can be connected

#### Technical characteristics:

Max power consumption: 3W  
 Number of users: 1 / 12 / 24  
 IP rating: IP44  
 Operating temperature: -15...+55 °C  
 Weight: 1.7 kg

#### Mounting type:

Console-mounted  
 Wall-mounted, with MBOX, WBOX  
 Bracket-mounted, box/case WBOX

#### Headsets:

Headsets:  
 - HS-3, HS-3M, HS-5, HS-5M, HS-5A  
 Intercom helmets: IH-4M(S), IH-4M(S)-P  
 Relay unit RB-WSB  
 Signaling units RL24, A-24, LSU-24, AL-24



#### PH-1LRW, PH-12LRW, PH-24LRW telephone units

Telephone units for 1/12/24 lines used for battery less communication.

- Backlight of control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- External signaling units and headset can be connected

#### Technical characteristics:

Max power consumption: 3W  
 Number of users: 1 / 12 / 24  
 IP rating: IP56  
 Operating temperature: -40...+55 °C  
 Weight: 2.5 kg

#### Mounting type:

Inside: wall-mounted, with MBOX, WBOX  
 Open decks: into a cabinet

#### Accessories:

Headsets:  
 - HS-3, HS-3M, HS-5, HS-5M, HS-5A  
 - Intercom helmets: IH-4M(S), IH-4M(S)-P  
 - Relay unit RB-WSB  
 - Metal cabinet BTS2-BO  
 - Signaling units RL24, A-24, LSU-24, AL-24

# Battery less telephone system

## BLTS-1006



### PH-1LWP, PH-12LWP, PH-24LWP portable telephone units

Portable telephones for 1/12/24 lines.

- Battery less telephone and loudspeaker modes
- Backlight of control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- Headset can be connected (into a connector on the casing side)

#### Technical characteristics:

Max power consumption: 3W

Number of users: 1/12/24

Cable length: 10m

IP rating: IP56

Operating temperature: -40...+55 °C

Weight: 2.5 kg

#### Mounting type:

Portable

#### Accessories:

Headsets:

- HS-3, HS-3M, HS-5, HS-5M, HS-5A

Intercom helmets - IH-4M(S), IH-4L(S)-P

A socket PB-24



### SU-6, SU-6A Telephone/switching unit

A telephone/switching unit for 6 lines battery less communication systems (separate connection of users).

- Backlight of control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- Headset can be connected

#### Technical characteristics:

Number of users: 1 to 6

IP rating: IP44

Power consumption:

- talk mode: 15W

- waiting mode: 3W

Weight: 1.7 kg

Operating temperature: -15...+55 °C

#### Mounting type:

Console-mounted

Wall-mounted, MBOX, WBOX

Bracket-mounted, box/case WBOX

#### Accessories:

Headsets:

- HS-3, HS-3M, HS-5, HS-5M, HS-5A

Intercom helmets: IH-4M(S), IH-4M(S)-P

Relay unit RB-WSB

Signaling units RL24, A-24, LSU-24, AL-24



### SU-12, SU-12A Telephone/switching unit

A telephone/switching unit for 12 lines (separate connection of users) used for battery less communication systems.

- Backlight of control buttons
- Inductor and power LEDs
- Sound and light incoming call alert
- Headset can be connected

#### Technical characteristics:

Number of users: from 1 to 12

IP rating: IP44

Power consumption:

- talk mode: 15W

- waiting mode: 3W

Weight: 2.2 kg

Operating temperature: -15...+55 °C

#### Mounting type:

Console-mounted

Wall-mounted with MBOX2, WBOX2

Bracket-mounted with box/case WBOX2

#### Accessories:

Headsets: HS-3, HS-3M, HS-5, HS-5M, HS-5A

Intercom helmets: IH-4M(S), IH-4M(S)-P

Relay unit RB-WSB

Signaling units: RL24, A-24, LSU-24, AL-24



### SU-20 Telephone/switching unit

A telephone/switching unit for 20 lines used for battery less communication system (separate connection of users).

- Backlight of controls
- Sound and light incoming call alert
- Inductor and power LEDs
- Headset can be connected

#### Technical characteristics:

Number of users: 1 to 20

IP rating: IP44

Power consumption:

- talk mode: 15W

- waiting mode: 3W

Weight: 2.2 kg

Operating temperature: -15...+55 °C

#### Mounting type:

Flush mounting

Hinge mounting, MBOX3, WBOX3

Accessories:

Headsets:

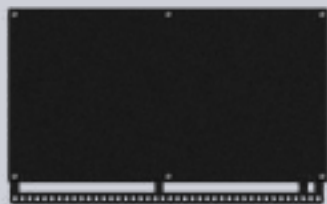
- HS-3, HS-3M, HS-5, HS-5M, HS-5A

Intercom helmets: IH-4M(S), IH-4M(S)-P

Relay unit RB-WSB

Signaling units: RL24, A-24, LSU-24, AL-24





### SB-12A, SB-24A switching unit

ensures centralized power distribution to telephone units.

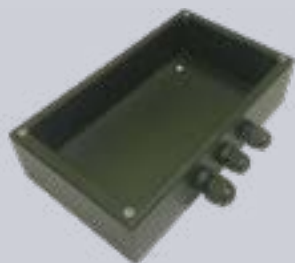
- Built-in amplifier
- The unit is used when two or more telephones are in operation

#### Technical characteristics:

Power supply voltage:  
 - input 18-36V DC  
 - output 24V DC  
 Number of terminals to connect telephone units:  
 - SB-12A - 12  
 - SB-24A - 24  
 Galvanic isolation from power mains:  
 - 1.5kV  
 Power consumption: 75W  
 IP rating: IP22  
 Weight: 1.4 kg

#### Mounting type:

Wall



### Metal cabinets MBOX, MBOX2

To house telephone units on a vertical bulkhead.

- MBOX is used with telephones PH-1LA, PH-xx, PH-xxLR, PH-6x
- MBOX2 is used with telephones/switching units PH-12A, PH-12, PH-20A, PH-20

#### Technical characteristics:

Material: steel  
 IP rating: IP44  
 Weight:  
 - 1.4 kg (MBOX)  
 - 1.6 kg (MBOX2)



### Wooden case/box WBOX, WBOX2

To install telephones on a vertical bulkhead or horizontal surface (e.g. onto a desktop).

- WBOX is used with telephone units PH-1LA PH-xx, PH-xxLR, PH-6x
- WBOX2 is used with telephone units PH-12A, PH-12, PH-20A, PH-20

#### Technical characteristics:

Material: wood (oak)  
 IP rating: IP22  
 Weight:  
 - WBOX - 0.8 kg  
 - WBOX2 - 1.0 kg



### PB-HS socket

For remote connection of a headset to a telephone.

- Waterproof
- Waterproof port with a protective cover to connect substations

#### Technical characteristics:

Weight: 0.8 kg  
 IP rating: IP56  
 Operating temperature: -40...+55 °C

#### Mounting type:

Wall



### Socket (to connect portable PB-xx telephones) PB-24

To connect portable telephones PB-xx to telephone network or telephone/switching unit.

- Waterproof
- Waterproof port with protective cover

#### Technical characteristics:

Casing: aluminum  
 Operating temperature: -40...+55 °C  
 IP rating: IP56  
 Weight: 0.8 kg

#### Mounting type:

Wall