





Wireless paging system ETERO

The ETERO system is another – next to the wireless control system and wireless doorbells of SUNDI group – achievement of the Zamel Company's group of constructors. An achievement that includes solutions based on wireless communication. The ETERO system has been created for all those people who require care. Currently, the wireless paging system ETERO ensures the safety of patients in hospitals, nursing and private homes not only in Poland but also abroad - that means everywhere a fast assistance to a seriously ill person is a priority. Due to its high production quality, reliability and simplicity in us-

ing, the system quickly gained confidence and popularity among patients and staff of care and medical centers. It is worth remembering that the use of wireless solutions eliminates the costs related to installation in case of traditional - wired - paging systems. Installation of the ETERO system is reduced only to a fast and easy programming of receivers (signalling board, pager) and transmitters (button transmitter, strand transmitter, remote control).

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Signalling board

ST-01



Description

This signalling board has a capacity of 100 transmitters and is used in Etero - wireless paging system. This device receives call signals which are sent by NS/K-217 and NS/C-218 stationary transmitters and P-258/2 remote controller. When the call signal is received the user is informed about it by means of optical and acoustic signals (highlighted buttons and a buzzer). The call signal can be deleted by means of buttons.

Features

- basic element of Etero wireless paging system,
- easy to install and service,
- a possibility of adding and deleting transmitters to the board,
- solid, metal casing,
- power backup: built-in battery.

Technical data

Number of transmitters: 100
 Power supply:
 external power supply 230 / 15 V DC
 Power consumption: max 350 mA
 Temperature operating range: 0 ÷ +35°C
 Protection degree: IP20
 Dimensions: 300 x 490 x 100 mm
 Weight: 7,6 kg

Signalling board

ST-02



Description

This signalling board has a capacity of 36 transmitters and is used in ETERO - wireless paging system. This device receives call signals which are sent by NS/K-217 and NS/C-218 stationary transmitters and P-258/2 remote controller. When the call signal is received the user is informed about it by means of optical and acoustic signals (highlighted buttons and a buzzer). The call signal can be deleted by means of buttons.

Features

- basic element of Etero wireless paging system,
- easy to install and service,
- a possibility of adding and deleting transmitters to the board,
- solid, metal casing,
- power backup: built-in battery.

Technical data

Number of transmitters: 36
 Power supply:
 external power supply 230 / 15 V DC
 Power consumption: max 200 mA
 Temperature operating range: 0 ÷ +35°C
 Protection degree: IP20
 Dimensions: 300 x 270 x 100 mm
 Weight: 5,6 kg

Portable signalling receiver (pager)

POS-216



Description

The portable signalling receiver (pager) is a device used to increase wireless paging system functionality. It enables mobile reception of call signals from NS/K-217 and NS/C-218 stationary transmitters and from P-207/2 remote controller from every place of a building. It makes the care staff work more comfortable as they can receive calls not only in their nursing duty room but also near the patient's bed.

Features

- optic (display) and acoustic (buzzer) call signalling,
- 20 calls memory,
- small size of the device, easily operated,
- casing made from ABS material,
- possibility of adding and deleting transmitters to pager's memory,
- power backup - built-in battery 2x 1,2 V.

Retransmitter

RT-219

Description

Re-transmitter is used to increase radio signal and as a result the increase in the wireless paging system operation range. The device receives a call signal sent by stationary transmitters such as NS/K-217 and NS/C-218 and remote controller, type P-258/2. After receiving the signal the retransmitter increases it and sends back to the signalling boards, types ST-01 and ST-02 and a POS-216 pager.

Features

- a possibility of unlimited increase of wireless paging system operation range,
- backup power supply – two built-in 1,2V batteries.

Technical data

Number of transmitters: 500
 Power supply: NiMH AAA 1,2 V batteries, (external power supply in the set)
 Temperature operating range: $-20 \div +60^{\circ}\text{C}$
 Protection degree: IP56
 Dimensions: 130 x 115 x 30 mm
 Weight: 225 g
 Colour: grey



Button stationary transmitter

NS-K/217

Description

Button stationary transmitter is used to send call signals from the patient's room to signalling boards (types ST-01 and ST-02) and to a pager (type POS-216). This device is intended for rooms of everyday use, canteens, etc.

Features

- reset and call buttons,
- signalling of paging signal messaging (LED diode),
- repeated send call signal's function (till reset),
- charge battery signal on pager's screen (type POS-216).

Technical data

Power supply: battery 9 V 6F22
 Power consumption: 10 mA
 Frequency of sending a call signal: every 2 minutes
 Temperature operating range: $0 \div +35^{\circ}\text{C}$
 Protection degree: IP54
 Dimensions: 110 x 60 x 40 mm
 Weight: 210 g
 Colour: grey



Strand stationary transmitter

NS-C/218

Description

Strand stationary transmitter is intended for sending a call signal from patient's room to signalling boards, type ST-01 and ST-02 and to a pager, type POS-216. This device is used in humid rooms – bathrooms, toilets, launderettes, etc.

Features

- strand call and reset buttons,
- signalling of paging signal messaging (LED diode),
- repeated send call signal's function (till reset),
- charge battery signal on pager's screen (type POS-216).

Technical data

Power supply: battery 9 V 9F22
 Power consumption: 10 mA
 Frequency of sending a call signal: every 2 minutes
 Temperature operating range: $0 \div +35^{\circ}\text{C}$
 Protection degree: IP54
 Dimensions: 110 x 60 x 40 mm
 Weight: 200 g
 Colour: grey



Radio power switch one-channel receiver

RWS-211J/N



Description

- One-channel remote control switch for electrical domestic devices such as: lighting fittings, heaters, fans, air conditioners, pumps, gates, dams, optic and acoustic signalling,
- operating range*: 300 m ÷ 450 m in an open area,
- designed to work in changeable weather conditions,
- comfort while controlling not easily accessible facilities and appliances,
- efficient help for road maintenance and protection services,
- perfect assistance for the disabled,
- battery-operated remote control,
- a possibility of controlling one, two or four devices (receivers) by means of one remote control,
- a possibility of cooperation of a larger number (up to 113) remote controls with one receiver,
- suitable for a continuous operation,
- a possibility of increasing the operation range by means of the RT-219 retransmitter.

Technical data

Power supply of the receiver: 230 V AC / 50 Hz
 Power / Current consumption: 3 VA
 One channel load: 16 A / 250 V AC 4000 VA / AC1
 Remote control power supply: 12 V, 4 batteries CR2016
 Antenna socket: BNC 50
 Sensitivity: -105 dBm
 Transmission: radio coded
 Frequency: 433,92 MHz
 Coding: changeable code KEELOQ
 Maximum connection power: 2000 W
 Number of channels: 1
 Ambient temperature operation range: -20 ÷ +35°C
 Operation mode: bistable, monostable with fluent operation time regulation from 1 sec. to 2 min.

Technical details RWS-211J/N SOL

Weight [g]: 390
 Dimensions [mm]: 127 x 120 x 60
 Bulk package [pcs]: 6
 Colour: grey

Available options

RWS-211J/N = P-258/2 + RWS-211J/N SOL
 Bulk package [pcs]: 6

Radio power switch two-channel receiver

RWS-211D/N



Description

- two-channel remote control switch for electrical domestic devices such as: lighting fittings, heaters, fans, air conditioners, pumps, gates, dams, optic and acoustic signalling,
- operating range*: 300 m ÷ 450 m in an open area,
- designed to work in changeable weather conditions,
- comfort while controlling not easily accessible facilities and appliances,
- efficient help for road maintenance and protection services,
- perfect assistance for the disabled,
- battery-operated remote control,
- a possibility of controlling one, two or four devices (receivers) by means of one remote control,
- a possibility of cooperation of a larger number (up to 113) remote controls with one receiver,
- suitable for a continuous operation,
- a possibility of increasing the operation range by means of the RT-219 retransmitter.

Technical data

Power supply of the receiver: 230 V AC / 50 Hz
 Power / Current consumption: 3 VA
 One channel load: 16 A / 250 V AC 4000 VA / AC1
 Remote control power supply: 12 V, 4 batteries CR2016
 Antenna socket: BNC 50
 Sensitivity: -105 dBm
 Transmission: radio coded
 Frequency: 433,92 MHz
 Coding: changeable code KEELOQ
 Maximum connection power: 2000 W
 Number of channels: 2
 Ambient temperature operation range: -20 ÷ +35°C
 Operation mode: bistable, monostable with fluent operation time regulation from 1 sec. to 2 min.

Technical details RWS-211D/N SOL

Weight [g]: 410
 Dimensions [mm]: 127 x 120 x 60
 Bulk package [pcs]: 6
 Colour: grey

Available options

RWS-211D/N = P-258/2 + RWS-211D/N SOL
 Bulk package [pcs]: 6

Radio power switch four-channel receiver

RWS-211C/N

Description

- four-channel remote control switch for electrical domestic devices such as: lighting fittings, heaters, fans, air conditioners, pumps, gates, dams, optic and acoustic signalling,
- operating range*: 300 m ÷ 450 m in an open area,
- designed to work in changeable weather conditions,
- comfort while controlling not easily accessible facilities and appliances,
- efficient help for road maintenance and protection services,
- perfect assistance for the disabled,
- battery-operated remote control,
- a possibility of controlling one, two or four devices (receivers) by means of one remote control,
- a possibility of cooperation of a larger number (up to 113) of remote controls with one receiver,
- suitable for a continuous operation,
- a possibility of increasing the operation range by means of the RT-219 retransmitter.

Technical data

Power supply of the receiver: 230 V AC / 50 Hz
 Power / Current consumption: 5 VA
 One channel load: 16 A / 250 V AC 4000 VA / AC1
 Remote control power supply: 12 V, 4 batteries CR2016
 Antenna socket: BNC 50
 Sensitivity: -105 dBm
 Transmission: radio coded
 Frequency: 433,92 MHz
 Coding: changeable code KEELOQ
 Maximum connection power: 2000 W
 Number of channels: 4
 Ambient temperature operation range: -20 ÷ +35°C
 Operation mode: bistable, monostable with fluent
 operation time regulation from 1 sec. to 2 min.

Technical details RWS-211C/N SOL

Weight [g]: 580
 Dimensions [mm]: 157 x 82 x 55
 Bulk package [pcs]: 6
 Colour: grey

Available options

RWS-211C/N = P-258/4 + RWS-211C/N SOL
 Bulk package [pcs]: 6



COOPERATION AND OPERATION RANGE*

Remote control	RWS-211J/N, RWS-211D/N, RWS-211C/N	Retransmitter RT-219 + RWS-211J/N, RWS-211D/N, RWS-211C/N
P-258/2	300 m	500 m
P-258/4	300 m	500 m
P-259/8	450 m	650 m
P-207/2	350 m	550 m

* The given range concerns opened area i.e. perfect conditions without obstacles. If between the transmitter and the receiver obstacles are found, range decrease can be expected depending on the following: wood and plaster from 5 to 20%, brick from 20 to 40%, armed concrete from 40 up to 80%. As for metallic obstacles the application of radio system is not recommended due to an enormous operation range decrease. Also overhead and underground power lines have a negative influence on the operation range as well as transmitters of the GSM network placed in a short distance of devices.

Remote control

P-258/2



Description

The two-channel remote control P-258/2 controls all Y series devices, radio power switches such as RWS-211 and RWS-211/N, power switches such as WSR-NT, WSR-PT, roller blind controllers such as SR-NT, SR-PT, wireless electric lock controller such as BSR-207 and RT-219 retransmitter. Optic signalling of the remote control operation; "pendant" type remote control - pendant in a form of a chain with a ring.

Technical data

Power supply: 12 V DC (4 x battery CR2016)
 Transmission: radio (433,92 MHz)
 Transmitter's power: <5 mW
 Coding: changeable code KEELOQ
 Protection degree: IP20
 Ambient temperature operation range: 0 ÷ +35°C
 Weight [g]: 25
 Dimensions [mm]: 74 x 33 x 11,5
 Colour: graphite

Remote control

P-258/4



Description

The four-channel remote control P-258/4 controls all Y series devices, radio power switches such as RWS-211 and RWS-211/N, power switches such as WSR-NT, WSR-PT, roller blind controllers such as SR-NT, SR-PT, wireless electric lock controller such as BSR-207 and RT-219 retransmitter. Optic signalling of the remote control operation; "pendant" type remote control - pendant in a form of a chain with a ring.

Technical data

Power supply: 12 V DC (4 battery CR2016)
 Transmission: radio (433,92 MHz)
 Transmitter's power: <5 mW
 Coding: changeable code KEELOQ
 Protection degree: IP20
 Ambient temperature operation range: 0 ÷ +35°C
 Weight [g]: 75
 Dimensions [mm]: 74 x 33 x 11,5
 Colour: graphite

Remote control

P-259/8



Description

The eight-channel remote control P-259/8 controls all Y series devices, radio power switches such as RWS-211 and RWS-211/N, power switches such as WSR-NT, WSR-PT, roller blind controllers such as SR-NT, SR-PT, wireless electric lock controller such as BSR-207 and RT-219 retransmitter. Optic signalling of the remote control operation and battery status; magnet is built in a remote control casing, it allows to attach the remote control to a metal surface.

Technical data

Power supply: 12 V DC (battery 23A)
 Transmission: radio (433,92 MHz)
 Transmitter's power: <5 mW
 Coding: changeable code KEELOQ
 Protection degree: IP 20
 Ambient temperature operation range: 0 ÷ +35°C
 Weight [g]: 60
 Dimensions [mm]: 152 x 43 x 17,5
 Colour: graphite

Radio power switch three-channel receiver

RWS-411

Description

- enables remote control over switching electrical loads in home and industrial electrical equipment, including lights, ventilation fans, garage doors, gates, etc.,
- radio-frequency control range: 1300 / 2600 m (depending on the RF remote control) outdoor with LoRa,
- designed for operation in variable weather conditions,
- facilitates control and switching of hardly accessible electrical loads,
- power supply: 230 V AC or 12 V DC,
- 3 independent 16 A voltage-free relay outputs,
- external antenna wire,
- designed for continuous duty,
- up to 20 remote controls addressable,
- remote RF circuit breaker receiver configuration (pairing and unpairing remote controls and operating configuration setting).

Technical data

Power supply: 230 V AC / 50 Hz or 12 V DC
 Power input: 2 W in standby, 5 W when switching
 Capacity: 3 x 16 A / 250 V AC 4000 VA AC1
 External antenna receptacle: yes
 Transmission line: RF, LoRa
 Frequency: 868,9 MHz
 Encryption: variable encoding, 128-bit encryption key
 Channels: 3 x voltage-free contacts
 Ingress protection rating: IP65
 Operating temperature: -20 to +55°C
 Operation modes: On / Off; time-delayed switching



* The RF range can be increased to 50 km by adding ANT-411. The RF transmission range is specified for ideal conditions (without any obstacles along the transmission line), assuming a direct propagation of RF waves between two antennas in direct line of sight.

Description

- dedicated for the RWS-411 RF 3-channel circuit breaker's receiver,
- battery-operated,
- controls 3 channels for On/Off or time-delayed switching,
- output status LED display,
- low battery display,
- robust impact-resistant enclosure,
- transmission power readable from the receiver.

Technical data

Power supply: 3 V (2 x AA 1.5 V batteries)
 Current load: 1.2 μ A in standby, 100 mA in operation
 Transmission line: RF, LoRa
 Frequency: 868,9 MHz
 Encryption: variable encoding, 128-bit encryption key
 Channels: 3 x On / Off
 Optical output status indication: 6 x LEDs
 Low battery indication: LED
 Ingress protection rating: IP65
 Operating temperature: -20 ÷ +55°C

Remote control

P-411/M



RANGE
1300 m

Description

- edicated for the RWS-411 RF 3-channel circuit breaker's receiver,
- battery-operated,
- controls 3 channels for On/Off or time-delayed switching,
- output status LED display,
- low battery display,
- robust impact-resistant enclosure,
- transmission power readable from the receiver.

Technical data

Power supply: 3 to 3.6 V (battery type: ½ AA)
 Current load: 1.2 μ A in standby, 100 mA in operation
 Transmission line: RF, LoRa
 Frequency: 869,5 MHz
 Encryption: variable encoding, 128-bit encryption key
 Channels: 3 x On / Off
 Optical output status indication: 6 x LEDs
 Low battery indication: LED
 Ingress protection rating: IP65
 Operating temperature: -20 ÷ +55°C

Remote control

P-411/D



RANGE
2600 m

COOPERATION AND OPERATION RANGE**

Remote control	RWS-411
P-411/M	1300 m
P-411/D	2600 m

**The given range concerns opened area i.e. perfect conditions without obstacles. If between the transmitter and the receiver obstacles are found, range decrease can be expected depending on the following: wood and plaster from 5 to 20%, brick from 20 to 40%, armed concrete from 40 up to 80%. As for metallic obstacles the application of radio system is not recommended due to an enormous operation range decrease. Also overhead and underground power lines have a negative influence on the operation range as well as transmitters of the GSM network placed in a short distance of devices.

Directional RF antenna

ANT-411



Description

- dedicated for the RWS-411 RF 3-channel circuit breaker,
- increases the RF transmission range up to 50 km*,
- installation bracket included,
- weather-resistant.

Technical data

Impedance: 50 Ω
Energy gain: 12 dB
RF radiation pattern: directional
Polarity: vertical
Material: aluminium, PA 38
Mast dia.: 40 to 80 mm
Antenna weight: 1,2 kg

* The RF transmission range is specified for ideal conditions (without any obstacles along the transmission line), assuming a direct propagation of RF waves between two antennas in direct line of sight.

