

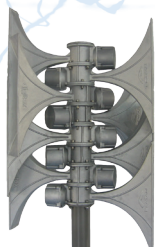
We are heard everywhere

DSE electronic sirens



**digitex**<sup>®</sup>  
od 1985

# DSE ELECTRONIC SIRENS



**DSE Electronic sires with slotted speakers  
DSE-300S-3000S**



**DSE Electronic sires with tube speakers  
DSE-600**



**Mobile Siren  
DSE-200M**



**Mobile Siren (wheeled)  
DSE-300M**



**Mobile Siren  
DSE-600M**

**DSE series** electronic sirens are manufactured by PLATAN (with **digitex**<sup>®</sup> brand name) for the purpose of public warning and alerting (e.g. ecological, military, terrorist, catastrophic and other hazards).

These hi-tech facilities support the alerts generated in any applicable alarm modes as specified by the Fire Services, Civil Defence, and other rescue services. They also are parts of public evacuation systems used e.g. in large production areas, at army bases, airports, industrial quarters, in lands exposed to floods, at water dams, as well as at other strategic sites and structures.

**DSE** sirens are adapted to the co-operation with any warning system, specifically with **digitexCZK/FSK**, and **digitexCZK/IP** systems operated by the Civil Defence and Fire Services. A **DSE** siren is controlled via analog VHF/UHF radio networks, digital radio networks of DMR (TDMA) and NXDN (FDMA) standards, and IP networks (LAN/WAN, VPN). It can be also adapted to wireless-operated systems based on GSM, GPRS, 3G, CDMA, TETRA, WiMax, and

LTE technologies as well as the systems which use conventional PSTN lines or leased lines.

Each electronic siren is composed of slotted or horn loudspeakers (their number depending on the siren power: from 300 W to 3000 W) and control block with control module and signal generator, WSE-300 amplifier modules, ZSE-24 amplifier module, two maintenance-free batteries of capacity of 33 Ah up to 120 Ah, and other actual warning system adapters, all of which are enclosed in a metal box.

**DSE** sirens may be installed as fixed units on the roofs, poles, street lanterns, etc., as well as mobile (transportable) units in suitcases, on carriages, single or double-axle trailers, and open load-carrying bodies of pick-up vehicles.

Thanks to its modular structure the **DSE** electronic siren may be easily expanded by means of additional elements, such as e.g. amplifiers and loudspeakers, thus enhancing its acoustic power and sound intensity.

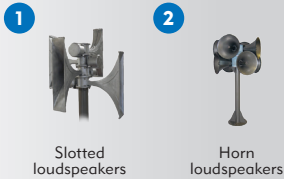
**DSE** sirens are used for real-time transmission of voice messages, either from a remote (control station) or local (microphone installed on the control block) site. As an additional feature, **DSE** sirens can broadcast any sound messages saved to the system memory as wave or mp3 files.

**DSE** sirens co-operate with external systems, such as e.g. weather stations, chemical, biological, and radioactive contamination sensors, water-level gauges, as well as control elements of road traffic signalling systems, gate opening systems, etc. Power supply may originate from the mains (230 V/50 Hz) or solar panels.

# Configuration:

## what a DSE-type electronic siren can contain?

### Loudspeakers (for DSE electronic siren)



### Control block (default configuration)



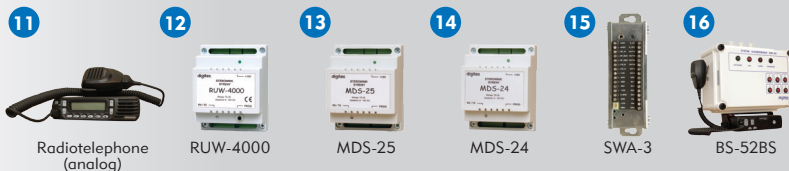
### Control modules (for digitexCZK/IP digital system)



### Special accessories (option)



### Control modules (for analog systems)



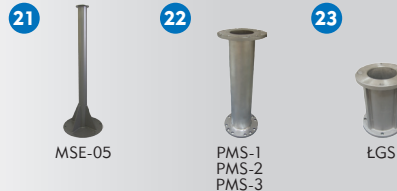
### Additional modules (option)



### Local manipulators (option)



### Accessories for loudspeakers (option)



### I/O modules (option)



Example of configuration:

1 3 4 6 8 17 18 20 21

DSE siren with slotted loudspeakers (1), control block (3) equipped with digital radiotelephone Kenwood (4) and control module PC550A (6), clock module SZS-24 (17), gate GSM DTG-53 (18), external manipulator DMS-21 (20), and mast MSE-05 1.5 m (21). The siren will be adapted to METEO station (8).



Call Export department to agree upon ordering details.



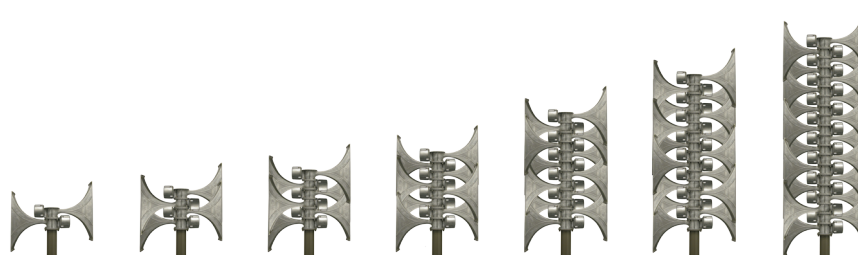
**NOTE:**

The order should contain information on the siren power which should range from 300 W to 3000 W (multiple of 300 W) and/or on necessary acoustic level SPL (dB); these parameters will define the number of loudspeakers and amplifiers as well as battery capacity for the control block.

## Benefits of Electronic sirens DSE

- ✓ DSE electronic sirens are compatible with any analog and digital public warning and alerting systems in Poland
- ✓ Their modular structure ensures the expansion depending on current and future needs
- ✓ DSE electronic sirens generate any voice messages (live and recorded; on site and from remote location) as well as any other irregular records (such as e.g. anthems, clock ringing, chimes, etc.)
- ✓ Macro-sound combination option, e.g.
  - ▶ voice message ▶ alarm ▶ voice message

- ✓ Selection of special functions and status readout via GSM (SMSs)
- ✓ Siren data ongoing readout (door, power supply, battery voltage status)
- ✓ Back up power supply: maintenance-free gel cell batteries
- ✓ Omnidirectional or directional sound propagation model
- ✓ Data transmission encrypt by means of AES-128 algorithm and additional RSA encryption algorithm in the case of IP-controlled sirens (LAN/WAN)
- ✓ Low power consumption (230 V/50 Hz)
- ✓ Loudspeakers: long service life and resistance to atmospheric conditions
- ✓ Consistency with EU directives and standards confirmed by CE certificate and surveys conducted by OBR CTM S.A. Laboratory
- ✓ Control block box protection: IP-65 for outdoor facilities
- ✓ Integration with external equipment, such as e.g. METEO stations, gas sensors, radioactive contamination sensors
- ✓ Prompt and professional warranty and after-sales service by certified maintenance network in the territory of the entire country



## Technical parameters

Model	DSE-300S	SE-600S	DSE-900S	DSE-1200S	DSE-1800S	DSE-2400S	DSE-3000S
Output power	300 W	600 W	900 W	1200 W	1800 W	2400 W	3000 W
Sound pressure level (SPL)	103 dB(A)/ 30 m	109 dB(A)/ 30 m	112 dB(A)/ 30 m	115 dB(A)/ 30 m	118 dB(A)/ 30 m	121 dB(A)/ 30 m	123 dB(A)/ 30 m
Number of horns	2	4	6	8	12	16	20
Number of amplifiers	1 x 300 W	2 x 300 W	3 x 300 W	4 x 300 W	6 x 300 W	8 x 300 W	10 x 300 W
Fundamental frequency	dual-tone: 415-425 Hz (frequency range: from 250 Hz up to 3000 Hz)						
Main power supply	220 – 240 VAC / 50 – 60 Hz						
Backup supply – solar panels	100 W – 250 W					Optional: 2 x 100 W – 250 W	
Emergency power supply (maintenance-free batteries)	2 x 12 V 33 Ah		2 x 12 V 50–120 Ah			Optional: 4 x 12 V 75 Ah - 80 Ah	
Power consumption in stand-by mode (without additional accessories)	max. 1,5 W						
Battery charging current	max. 3 A					Optional: max. 10 A	
Number of alarms with emergency power supply	up to 20 x 1-minute alarms (24 hours after switching-off the main power supply)						
Time of operation without main power supply (stand-by mode)	up to 30 days in stand-by						
Control options (digital, preferred)	<ul style="list-style-type: none"> <li>☐ PC-5XX (digitexCZK/IP® system)</li> <li>☐ IP (LAN/WAN, VPN, WiFi, WiMax)</li> <li>☐ GSM/GPRS/3G/LTE/CDMA</li> <li>☐ interfaces: I2C, USB, RS-232, RS485/422, CAN</li> </ul>						
Control options (analog)	<ul style="list-style-type: none"> <li>☐ Radio VHF/UHF (FSK) – MDS-25</li> <li>☐ DTMF</li> <li>☐ PSTN network or leased lines</li> </ul>						
Control options (local)	<ul style="list-style-type: none"> <li>☐ wall mounted manipulator with microphone</li> <li>☐ desk manipulator with microphone</li> <li>☐ manipulator with LCD and keyboard mounted in siren cabinet</li> <li>☐ clock controller SZS-24</li> <li>☐ DMR-150 microphone</li> <li>☐ digital inputs (up to 15 alarms)</li> </ul>						
Types of sounds	<ul style="list-style-type: none"> <li>☐ 64 alarm signals (rerecorded on SD card)</li> <li>☐ 64 voice messages (rerecorded on SD card)</li> <li>☐ real-time voice messages from the control centre</li> </ul>						
Operating temperature	<ul style="list-style-type: none"> <li>☐ aluminium horns: -30°C to +70°C</li> <li>☐ control block (IP55 indoor): 0°C to +50°C</li> <li>☐ control block (IP65 outdoor): -20°C to +65°C</li> </ul>						
Dimensions (H x W x D) / Weight	<ul style="list-style-type: none"> <li>☐ slotted loudspeaker: 610 x 600 x 140 mm/ 8 kg</li> <li>☐ control block (standard DSE-300S - DSE-1800S): 600 x 600 x 250 mm/ 30 kg without batteries</li> <li>☐ control block (DSE-2400S and DSE-3000S): 1000 x 600 x 250 mm/ 50 kg without batteries</li> <li>☐ optional DSE-2400S – DSE-3000S: 2 separated cabinets for control and backup batteries</li> </ul>						
Control block material	metal housing, RAL 7035, 2 locks, IP55/ IP65 for outdoor						
Horn material	aluminium alloy						

# Siren operation control modules for individual systems

## Analog radio link



### SWA-3

Siren operation control module for DSP-50 system, used in Civil Defence and Fire Services:

- 2 programmable inputs with optical insulation and 2 relay outputs
- inputs for DKA, DKF
- audio output for radiotelephone
- RS interface for communications with GSM DTG-52/53 terminal and GSE-24P generator



### RUW-4000

Siren operation control module for RSSS-2000/3000:

- inputs for DKA, DKF
- 4 sets of numbers (districts, cities, sirens and sectors)
- option to integrate with 4 various alarming systems (such as e.g. OC, PSP/OSP)



### MDS-24

Siren operation control module for MDSA-21 system, used in Civil Defence:

- RS interface for integration with GSE-24P generator



### MDS-25

Siren operation control module for digitexCZK/FSK system, used in Civil Defence and Fire Services, industrial facilities, water dams, etc.:

- RS interface for integration with GSE-24P generator
- option: mechanical siren control

## Digital radio link



### PC-500

Siren operation control module for digitexCZK/IP system: digital radio link DMR TDMA (Motorola):

- MS Windows XP
- compatible with DSE digital sirens and Radio Access Points (RAP)
- alarm and voice message playing from internal disc
- communication with local service server through IP and digital radio network
- support of acoustics from IP channel
- local support from keyboard (available in GSE-25)
- presentation of general siren status on LCD of GSE-25 generator (number; time; power supply; voltage; test)



### PC-550A

Siren operation control module for digitexCZK/IP system: digital radio link NXDN FDMA (Kenwood):

- compatible with DSE digital sirens
- alarm and voice message playing from SD card
- support of acoustics from IP channel
- local support from keyboard
- presentation of general siren status on LCD display (number; time; power supply; voltage; test)

## Control manipulators



### DMS-18B

Desktop manipulator - local support of DSE electronic siren:

- activation of master siren and 8 various macros
- voice message broadcasting by means of microphone
- option to integrate with external audio source



### DMS-21

Manipulator (installed inside or outside the control block, e.g. wall-mounted, or in metal housing):

- local support of DSE electronic siren
- activation of master siren and 8 various macros
- voice message broadcasting by means of microphone
- backlit keys and screen

DMS manipulators will be functional in any case where local activation of warning signals and voice message broadcasting are required apart from siren remote (radio) control.

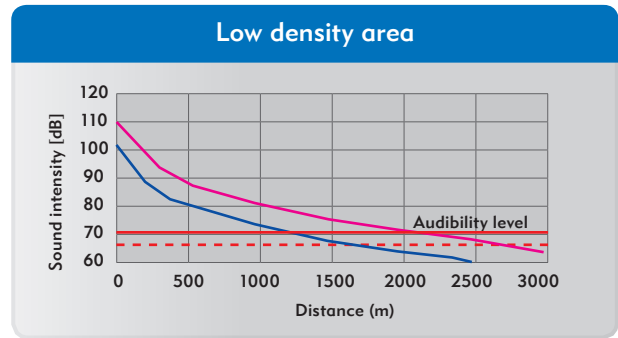
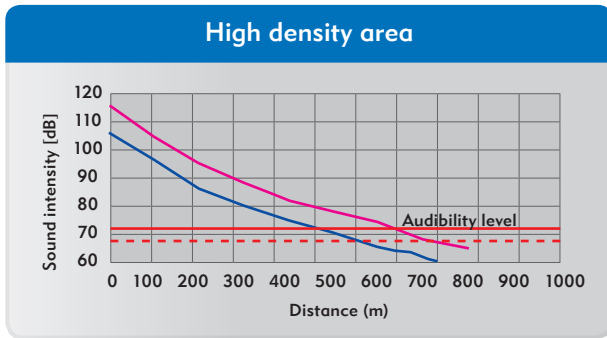
# Propagation of Sound Pressure Level (SPL)

Shown below are formulae to be used for the purpose of sound pressure level (SPL) estimation at a distance 'd' from sound source, in compliance with recommendations issued by FEMA (Federal Emergency Management Agency, USA):

- a)  $SPL(d < 800 \text{ m}) = SPL(30) - 20 \cdot \log(d/30)$ , where the distance is less than 800 m, and
- b)  $SPL(d > 800 \text{ m}) = SPL(30) - 33,3 \cdot \log(d/30)$ , where the distance exceeds 800 m

where SPL(30) means sound intensity in dB, measured at a distance of 30 m from the siren; this parameter is specified by siren manufacturers. Average city noise level of 70 dB should be assumed for the purpose of siren reach estimation.

Shown below are examples of relationship between sound intensity and distance from DSE-600S and DSE-1200S sirens.



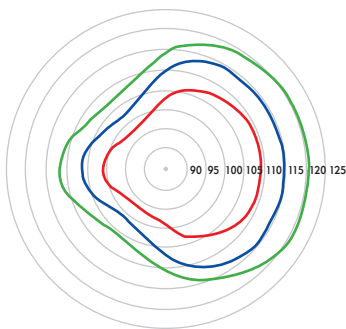
**Surface:**  
 DSE-600S – around 1 km<sup>2</sup>  
 DSE-1200S – around 1.5 km<sup>2</sup>

- DSE-600S
- DSE-1200S
- - Audibility level
- . - Ambient noise level

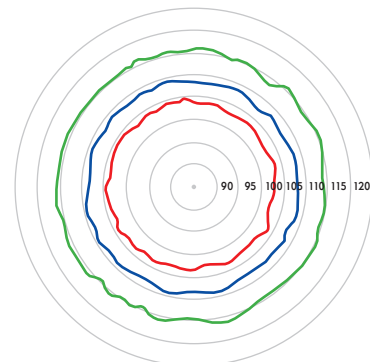
**Surface:**  
 DSE-600S – around 5 km<sup>2</sup>  
 DSE-1200S – around 11 km<sup>2</sup>

NOTE: All the above mentioned relationships and calculations should be treated as estimates only. Actual siren reach may be different

## Characteristics of directional sound pressure level (SPL) Power of 300 W, 600 W, and 1200 W



Speaker distribution: every 20°



Speaker distribution: every 90°

Design and validate the reach of your Public Warning and Alerting System in your area:

