

# **Underground detective**

#### Features

The LKZ locator set consists of a LKN transmitter and LKD detector. It allows for location, identification and tracking of the route of objects buried in the ground. It allows to trace:

- power cords and cables, control cables, telecommunications cables,
- underground elements of lightning protection systems, cathodic protection systems,
- water and sewage systems,
- fuel transmission systems (pipelines, gas pipelines)
- heating systems and pre-insulated pipes.

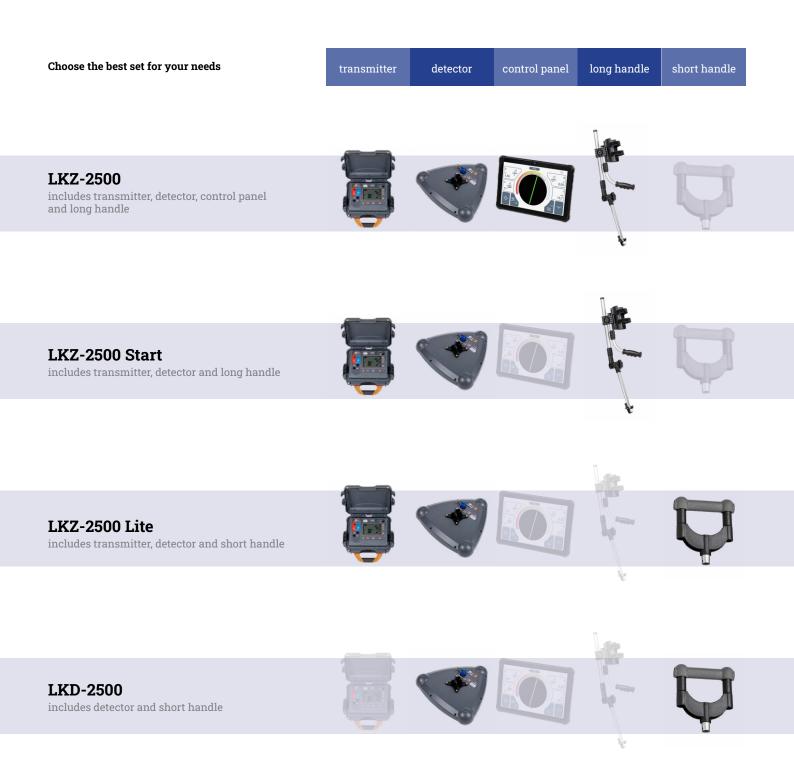
The sets of LKZ series are an invaluable support in earthworks carried out for various industries, including energy, installation, construction, railway, telecommunications, water and sanitary, heating, geodetic and many others.

**LKN-2500 transmitter** injects a locating signal into an underground object. **LKD-2500 detector** placed along the object traces this signal along the object. The information about position of the traced object is displayed on the **Sonel LKZ Mobile app** which is connected with the detector. Determination of the object's route is possible based on observation of compass readings and the level of the detected signal.

The system has the ability to trace cables and record routes via the mobile application. Such files can be exported and shared with other users – including those who do not have the LKN-2500 / LKD-2500 device.

The system is capable of operating in passive mode (without the use of the LKN-2500 transmitter) and active mode (with the use of the LKN-2500 transmitter). The active mode allows to introduce the signal in three different methods:

- galvanic injects tracing signal into the object directly, through crocodile clips and test leads,
- clamp injects tracing signal into the object through an inductive clamp,
- inductive injects tracing signal into the object inductively, using the instrument's internal antenna.





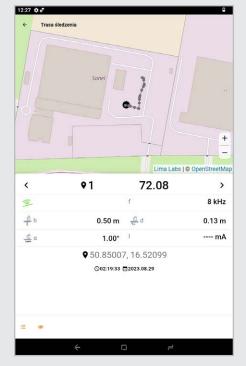


### LKN-2500 transmitter

- Operation in direct galvanic or inductive connection mode – internal transmitting antenna
- · Compatible with transmitting clamps
- Rugged housing

#### LKD-2500 detector

- Active mode
  - » work with LKN-2500 transmitter at the frequencies of 8 kHz, 32 kHz (Signal mode)
- Passive mode work at the frequencies of:
  - » 50 Hz, 60 Hz (Power mode)
  - » 2...65 kHz (Radio mode)



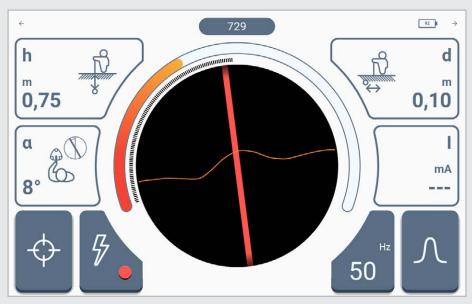
## Sonel LKZ Mobile

The application works with Sonel LKD-2500 detector. It enables tracing of objects, recording of routes in the memory of the mobile device along with GPS positions of waypoints and additional readings.



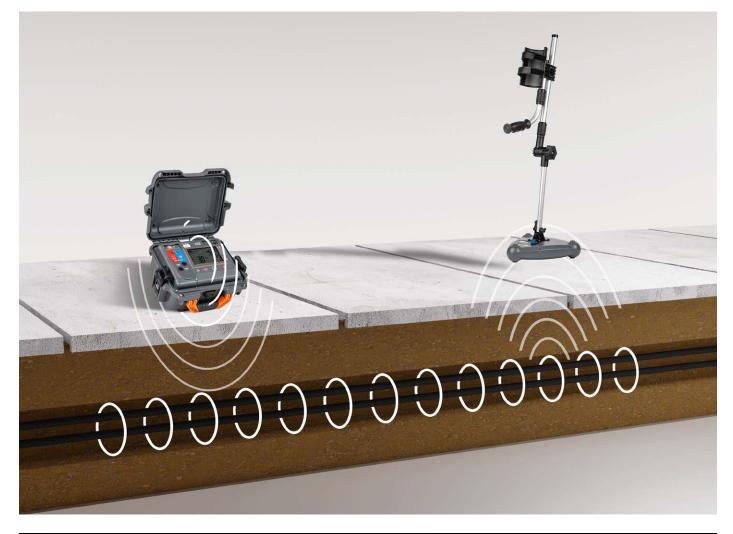
The application additionally enables:

- · live positioning preview,
- measuring the distance to a specific waypoint,
- export of routes to other mobile devices,
- reading routes from the mobile device's memory,
- preview of all recorded parameters,
- merging routes,
- · adding notes to routes and measurement points.



# **Technical specifications**

| LKN-2500 transmitter  |  |  |
|-----------------------|--|--|
| Ingress protection    | IP67                                     |  |
| Power supply          | Li-ion 7,2 V 9,8 Ah rechargeable battery |  |
| Dimensions            | 318 x 257 x 152 mm                       |  |
| Weight                | 3.4 kg                                   |  |
| Operating temperature | -10+50°C                                 |  |
| Storage temperature   | -20+60°C                                 |  |
| Reference temperature | 23 ± 2°C                                 |  |
| LKD-2500 detector     |  |  |
| Ingress protection    | IP65                                     |  |
| Power supply          | Li-ion 3,6 V 6,7 Ah rechargeable battery |  |
| Dimensions            | 290 x 275 x 100 mm                       |  |
| Weight                | 1.2 kg                                   |  |
| Operating temperature | -10+50°C                                 |  |
| Storage temperature   | -20+60°C                                 |  |
| Reference temperature | 23 ± 2°C                                 |  |
| Relative humidity     | 2090%                                    |  |



| <u> </u> | •           |
|----------|-------------|
| Standard | accessories |
| otanaana | 40000001100 |

| Standard acce | SSOTIES   |             |                  |                 |             |
|---------------|---|-------------|------------------|-----------------|-------------|
|               |   | LKZ-2500    | LKZ-2500 Start   | LKZ-2500 Lite   | LKD-2500    |
|               |   | WMGBLKZ2500 | WMGBLKZ2500START | WMGBLKZ2500LITE | WMGBLKD2500 |
| 8             | LKN-2500 transmitter<br>WMGBLKN2500   | 1           | 1                | 1               |             |
|               | LKD-2500 detector<br>WMGBLKD2500  | 1           | 1                | 1               | 1           |
|               | Control panel<br>WAPOZTAB08   | 1           |                  |                 |             |
| Ż             | Test lead 5 m 1 kV (banana plugs) red / blue<br>WAPRZ005REBB / WAPRZ005BUBB | 2/1         | 2/1              | 2/1             |             |
| 2             | Crocodile clip 1 kV 20 A red / blue<br>WAKRORE20K02 / WAKROBU20K02          | 3 / 1       | 3 / 1            | 3 / 1           |             |
| $\land$       | Ground probe 30 cm<br>WASONG30  | 2           | 2                | 2               |             |
|               | Battery charger Z-7<br>WAZASZ7  | 1           | 1                | 1               |             |
| < 1           | Battery charger Z-32<br>WAZASZ32  | 1           | 1                | 1               | 1           |
|               | Carrying case L-10<br>WAFUTL10  |             |                  | 1               | 1           |
| <b>K</b>      | Carrying case XL-1<br>WAFUTXL1  | 1           | 1                |                 |             |
| K.            | Shoulder harness, design 1<br>WAPOZSZE7                                     | 1           | 1                |                 |             |
| Ų             | Short handle<br>WAPOZUCH14  |             |                  | 1               | 1           |
| *             | Long handle<br>WAPOZUCH15   | 1           | 1                |                 |             |
| fort          | Holder for control panel WAPOZUCH16   | 1           | 1                |                 |             |
|               | Declaration of verification   | 1           | 1                | 1               | 1           |

| Optional accessories |  |             |                  |                 |              |  |
|----------------------|--|-------------|------------------|-----------------|--------------|--|
|                      |  | LKZ-2500    | LKZ-2500 Start   | LKZ-2500 Lite   | LKD-2500     |  |
|                      |  | WMGBLKZ2500 | WMGBLKZ2500START | WMGBLKZ2500LITE | WMGBLKD2500  |  |
|                      | LKN-2500 transmitter WMGBLKN2500               |             |                  |                 | $\checkmark$ |  |
|                      | Control panel<br>WAPOZTAB08                    |             | V                | V               | $\checkmark$ |  |
|                      | N-1 transmitting clamp (fi 52 mm)<br>WACEGN1BB | V           | V                | V               |              |  |
|                      | N-4 transmitting clamp (fi 110 mm)<br>WACEGN4  | V           | V                | V               |              |  |
|                      | N-5 transmitting clamp (fi 125 mm)<br>WACEGN5  | V           | V                | V               |              |  |
| -Ø                   | Transmission wire, 50 m<br>WAPRZPN50           | V           | V                | V               |              |  |
| -Ø                   | Transmission wire, 80 m<br>WAPRZPN80           | V           | V                | V               |              |  |
|                      | Carrying case XL-1<br>WAFUTXL1                 |             |                  | V               | $\checkmark$ |  |
| N.                   | Shoulder harness, design 1<br>WAPOZSZE7        |             |                  | V               | $\checkmark$ |  |
| Ų                    | Short handle<br>WAPOZUCH14                     | V           | V                |                 |              |  |
| <u>#.1-</u>          | Long handle<br>WAPOZUCH15                      |             |                  | V               | $\checkmark$ |  |
| had a                | Holder for control panel<br>WAPOZUCH16         |             |                  | V               | V            |  |