

EXTENDED SPECTRAL RANGE LASER AND RADAR WARNING AND PROTECTION SYSTEM SAPLAR S



STRUCTURE : • 4 heads with laser and radar sensors, integrated on both left and right sides of the armored vehicle • 2 heads are installed on the front of the vehicle and 2 on its back side • Processing Display and Command Unit – UPAC • Connection cables for the sensor blocks.

CHARACTERISTICS :

FOR LASER SENSORS:

- **Wavelength range:** 400÷1700 nm;
- **Repetitive irradiation frequency range:** 5÷1000 Hz;
- **Detection angles:**
 - horizontal: 360°;
 - vertical: -5°÷ 90°;
- **Laser detection resolution:** 15°;
- **Number of the laser sensors:** 22;
- **Max. number of the displayed laser illumination directions:** 24
- The device ensures the identification of the illumination source (a single pulse or pulse trains with the frequency range of 5 Hz÷1000 Hz);

FOR RADAR SENSORS:

- **Wavelength range:** 33÷37 GHz;
- **Detection angle:**
 - Horizontal: 360°;
 - Vertical: -25°÷ +65°;
- **Detection resolution:** 30°;
- **Number of the radar sensors:** 6,
- **Max. number of the displayed radar illumination directions:** 12
- **Type of displayed symbols:**
 - 2 for the utilized laser threat type (a single pulse or pulse trains);
 - 1 for the radar signal
 - 2 for the type of illumination source (terrestrial or aerial)
 - 2 for the grenade launcher status (loaded or empty)

GENERAL CHARACTERISTICS :

- **Detection distance:** 800÷5000 m (for a standard laser rangefinder with 10 mJ pulse power and 20 ns pulse length)
- **Supply voltage:** 18-32 Vcc (from the battery of the vehicle)
- **Consumed power:** max. 65W
- **Environmental conditions:**
 - Operating: -40°C ÷ +49°C;
 - Storage: -50°C ÷ +60°C;
 - Relative humidity 95% ±3% at a temperature of 40°C;
- **Response time:** max. 500 ms. between impulse detection and grenade launching:
 - The device displays the number of remaining grenades;
 - It displays the supply voltage values;
 - The equipment ensures the digital filtering in order to eliminate parasitic signals and false alarms;
 - The device ensures required current for the launching circuits (the number of the launching circuits may be modified, on request, to 20);
 - Digital acoustic warning signal (optical warning is optional);
 - RS 442 serial interface for an external system.

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The SAPLAR S system is designed for individual protection of armored vehicles (ICVs, APCs) against armament systems that use laser and radar illumination. The system is designed for less than 8 meters length vehicles. The device is characterized by an extended range of laser beam irradiation wavelengths: 400 ÷ 1700 nm.

The SAPLAR S ensures the following functions: • It detects laser and radar illumination and determines the direction and the type of the risk source • The equipment ensures timely warning of the vehicle crew for the appearance of the threat by displaying the direction of the threat with specific symbols on the LCD of the system. It also renders sound in order to warn the crew against laser and radar illumination action • The system allows the vehicle commander to undertake the necessary defensive maneuvers: performing elusive actions and/or using smoke screens • The equipment ensures the manual, semi-automatic or automatic launch of any type of grenades (smoke grenades, aerosol based thermal traps or other types of grenades) with which the vehicle may be equipped within the safe zone, corresponding to the tactical requirements. The laser sensor heads and the grenade launchers are installed on the same platform, sectorial dispensed, for the circular coverage of the vehicle.

