

Gerad-5

Human detecting radar

Gerad-5 detects people (moving and motionless) with minimum amplitude of moving chest of 0.01m located behind the walls at a distance of 10m



Opportunities and advantages

Gerad-5 radar is designed to detect people behind obstacles (walls, building construction, debris) during anti-terrorist and rescue operations.

Information on any moving objects in the range of radar operation is displayed as red marks in the corresponding sectors angularly and at predetermined distance on the radar display. Moving is observed as moving of the mark on the display. Mark presence in neighboring sectors angularly and at the same time stands for target location on the border of sectors.



A non-moving target is detected by breathing.

To detect motionless person, the required time can be increased to 3 - 6 seconds.

The application procedure suggests two operation options:

- Fixed position, with radar on a tripod installed near the obstacle;
- On-the-spot option, when holding the radar in hands pressing it against the wall.



Technical characteristics:

Detecting people behind the wall made of:

- brick of 0.4m thickness
- reinforced concrete of 0.2m thickness
- masonry of 0.4m thickness
- wood of 0.4m thickness

Detecting people under snow:

- dry snow of up to 10m thickness
- wet snow of 1-3m thickness

Radar detects people behind the walls in its location from a distance of at least 10 m to the wall

Detecting objects:

- horizontally - at least 120°
- vertically - at least 90°

Resolution:

- range - up to 0.3m
- horizontal field of view - up to 15°

Time of detecting a motionless person from the moment he/she appeared in the field of vision:

up to 10 seconds

Power supply:

built-in rechargeable battery (voltage from 10 to 15V) or an external power source

The device is operational under the exposure of the following factors:

- minimum operating temperature - minus 20 °C
- minimum temperature limit - minus 40 °C
- maximum operating temperature - plus 40 °C
- maximum temperature limit - plus 60 °C
- multiple mechanical shocks (15g - 30000 strokes, 35g - 4000 strokes)
- drop in a standard package on a concrete floor from the height of 0.75 m

Time to prepare Radar for use:

1 min

Continuous autonomous operation of the Radar:

at least 2 hours, with an external power supply at least 8 hours

Reliability limit values:

- MTBF (mean time between failures) - at least 3000 hours
- average repair time - up to 120 minutes
- average lifetime - at least 10000 hours
- average operating lifetime - at least 8 years

Battery capacity:

13 A·h

Current consumption:

1.84 A·h

Battery life in operation mode:

6 h