

High-Efficiency 2-Axis Solar Tracker for Photovoltaic Applications

MAIN APPLICATIONS:

Alternate electric power sources based on photovoltaic modules:

- Autonomous electric supply;
- Uninterruptible power supply systems;
- Smart Grids.

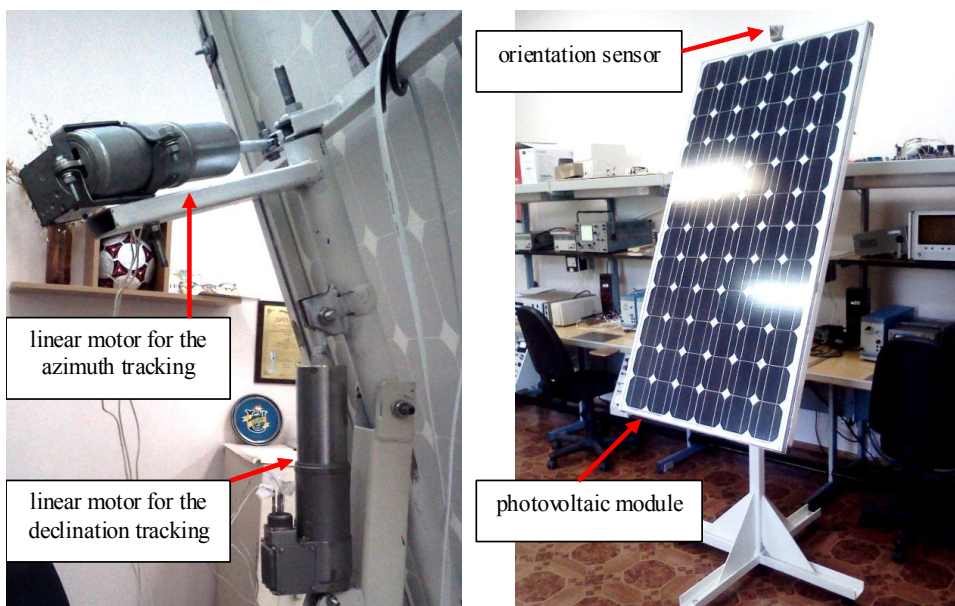
Proposed solar tracker can be used on:

- Corporate business and manufacturing enterprises;
- Housing and communal services enterprises;
- Private persons.

MAIN FEATURES AND ADVANTAGES:

- 2-Axis photovoltaic module solar tracking (azimuth and declination).
- Operation modes:
 - tracking based on orientation sensor;
 - tracking based on time.
- Original orientation algorithm provides 10% decrease of power consumption during tracking process.
- Maximum tracking angles: azimuth $\pm 40^\circ$, declination from 20° to 70° .
- Panel turning speed: $2^\circ/\text{sec}$.
- Maximum power consumption motor: 40W.

CONSTRUCTION:



- Photovoltaic module («Solar module»).
- Own-designed panel mounting system.
- Own-designed linear motor control system, based on microcontroller with orientation sensor.
- 2 linear motor MII-100M.
- Own-designed software.

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