

# Digital RES Supervision System EKTIN

EKTIN is a comprehensive system for the supervision and management of single or distributed photovoltaic farms and wind power plants, including those equipped with energy storage units. The system provides access to detailed information on the operation of the investment and facilitates the control of its components. It collects data on events, alarms and measured values, thus enabling effective management while reducing maintenance costs and ensuring safety.

## Key features of the system:

- Flexible and secure communication
- Visualisation and remote control
- Customised reporting for effective investment management



## Functionalities and benefits for:

Investor:	Manager:
<ul style="list-style-type: none"> <li>▪ Ongoing monitoring of generated revenue</li> <li>▪ Ongoing monitoring of the farm's PR (Performance Ratio)</li> <li>▪ User-friendly control panel</li> <li>▪ Information on the status and number of installed inverters</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support for on-call supervisors, service and maintenance personnel of PV farms</li> <li>▪ Tool for control and periodic diagnostics of PV installation operation without the need for constant maintenance</li> <li>▪ Visualisation of the system architecture with link status diagnostics</li> <li>▪ Visualisation of the operating status of PV installation automation</li> <li>▪ Visualisation of the state of the electrical network in the MV/LV range</li> <li>▪ Visualisation of measurements</li> <li>▪ Project view in the site development plan layout</li> </ul>

## Detailed information about the system

### System features:

- Scalability – from a single machine to a redundant architecture/installation
- HMI (Human Machine Interface) local supervision centre
- tool for control and periodic diagnostics of PV station operation without the need for constant maintenance
- Network analysers
- Option to purchase a ready-made application with or without an editor (runtime environment only)
- No need to purchase an SQL database
- Possible hardware and software redundancy
- Programming by parameterisation

### Communication:

- Available communication protocols: IEC 61850 Client/Server IEC 60870-5-101/103/104, DNP3, OPC-UA, Modbus,
- Alarm module based on selected signals for specific user groups: email or SMS
- Detailed information delivered locally and remotely from current and historical data
- Possible hardware and software redundancy
- Programming by parameterisation

## Data management:

- Data acquisition from station controllers and real-time control
- Real-time arithmetic and logical calculations
- Export to log files, reports, charts
- Access to system data via the web

## Visualisation:

- Graphical presentations of states and measurements
- Charts of recorded measurements
- Event recording and presentation – event log
- Alarm recording and presentation – alarm list
- Ability to use animated elements on the schema
- Rich library of graphic objects and application templates enabling the creation of custom projects in a simple and efficient way

## Reporting:

- Generation and management of warning and alarm signals
- Manual setting of signal states and measurements by the operator
- Individual reports and breakdowns regarding consumption, downtime, KPIs based on data obtained from automation, IT, security, telemechanics, inverters, and dataloggers
- Printing of diagrams, event logs, and other reports

View of dispatcher's panel  
- inverter/string level

Event log

Land development plan

View of investor's panel  
- main parameters of the farm, i.e.

- daily production
- PR
- number of panels in operation
- daily revenue
- total revenue

View of dispatcher's panel  
- MV and LV switchgear