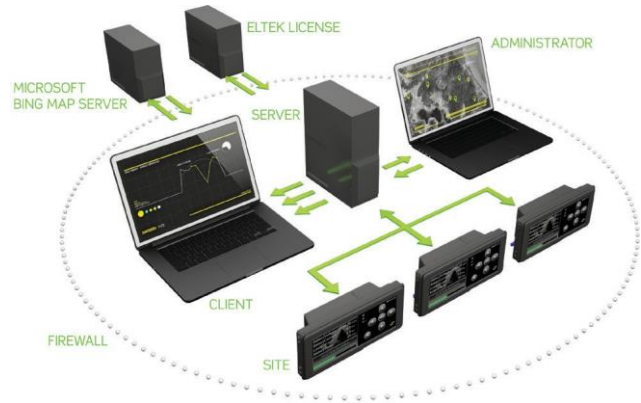# Remote Monitoring of All Sites in One Tool

Monitor energy and performance on multiple sites

- Statistics on energy produced
- Instant status overview
- KPI (Key Performance Indicators)
- Alarms
- Detect underperforming sites
- Email reports

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ELTEK LICENSE
ADMINISTRATOR
MICROSOFT BING MAP SERVER
SERVER
CLIENT
FIREWALL
SITE

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v2.10.1

MultiSite Monitor
Server-based Monitoring Software

Doc 4061xx.DS3 – rev 2.10.1

PRODUCT DESCRIPTION

Server-based Monitoring Software

The *MultiSite* software is a server-based tool that gathers statistical data from connected sites and stores it in a database.

The software also includes web pages for viewing the data from the database. The tool support up to 25000 connected sites.

Monitor the sites energy performance

The *MultiSite* software is a tool for monitoring multiple sites' energy performance and status.

The site owner gets access to performance data that can be used to evaluate investments in hybrid DC power system and for marketing of site fleet's reduced carbon emission.

The instant status of sites makes *MultiSite* a 1st line site maintenance tool; whenever there is a site in alarm, it is easily seen in the map, the list and top bar. One click in the site's details view will open the site's web pages in a new tab for further investigation of the alarm.

KEY FEATURES

- **EASY ACCESS**
  Through web browser for both clients and administrators
- **CLIENT MONITORING**
  Not dependent on access to site network
- **CENTRAL DATABASE SERVER**
  Holds statistical data, resulting in decreased browsing latency
- **SERVER TO SITE DATA TRANSFER THROUGH HTTP PORT 80**
  Fire-wall friendly (SSL on port 443 is fully supported)
- **MAP VIEW**
  Comprehensive sites overview
- **SITE LIST**
  Grouping of sites enables a greater overview
- **SUPPORTS UP TO 25 000 SITES**
  Based on multiple server installations
- **SUPPORT FQDN**

KEY FEATURES

- **AUTOMATIC DETECTION OF UNDERPERFORMING SITES**
  Use of battery, energy, generator and network connectivity
- **COMPREHENSIVE ALARM VIEWS**
  Rolling alarm view, alarm details view and alarm ranking of sites
- **KEY PERFORMANCE INDICATORS**
  Set KPI targets and measure site energy and performance
- **EMAIL REPORTS**
- **SITE SURVEILLANCE**
  Allows for site specific IP cameras to be monitored through *MultiSite Monitor*
- **BATTERY STATUS**
  Remaining battery life and battery backup time
- **GRID AVAILABILITY**
- **CLOUD COMPUTING**
  VMware platforms compatible

MultiSite Monitor

SPECIFICATIONS

AVAILABLE PACKAGES	Small	Medium	Large	Enterprise
Included clients/user accounts	2	5	15	15
Maximum no. of clients/user accounts	5	15	30	30
Included sites/connected power system controllers	5	50	200	3000
Max. no. of sites/connected power system controllers	49	199	3000	25000

SUPPORT AGREEMENTS	Limited	Maintenance & Service	
Email support	No minimum response time	Reply within 2 business days	
Telephone support (free support hours per year)	-	Small	4h
		Medium	15h
		Large	40h
Support availability	09:00-15:00 CET (not included)	09:00-15:00 CET	
On-site support	-	Upon request	
Free MSM software upgrade	-	Yes	

SERVER REQUIREMENTS Sites	Recommended Server Hardware	Recommended Free Disk Space after installation
0 - 100	2 CPU Cores, 3 GB RAM	100 GB
100 - 250	3 CPU Cores, 5 GB RAM	250 GB
250 - 500	5 CPU Cores, 8 GB RAM	500 GB
500 - 1000	8 CPU Cores, 16 GB RAM	1 TB
1000 - 2000	8 CPU Cores, 32 GB RAM	2 TB
More than 2000	*Contact MSM.support@eltek.com*	

CLIENT REQUIREMENTS

Web browser with Silverlight (v4.0) plug-in on client computer

SITE AND CONTROLLER REQUIREMENTS

- Eltek system controller with Ethernet and JSON support: ..General requirement
- Smartpack2 Master: .... All versions
- Smartpack (only .242100.118): .... WebPower version >4.6 (not compatible with SNMP auto config.)
- Smartpack S: .... All versions
- Compack: .... Firmware version > 1.05
- Delta Orion:.. Firmware version v7.00 or newer
- 3rd party controllers/SNMP Devices: .... SNMP v1, v2c, v3. MIB Compiler and mapping feature in MSM

NETWORK INFRASTRUCTURE REQUIREMENTS

Bandwidth to sites (no dial-up)	Minimum 256 kB/s
Daily data usage on each site	Typically from 50kB to 3.0 MB, dependent on configuration
Maximum response time	700 ms

Transport layer/MSMJsonService:................ TCP Port 80 / TLS Port 443	MSMJsonService: .... TCP port 8082
Data Set/Get SNMP, Alarms SNMP Traps:……………UDP Port 161/162	MSMSNMPService: .... TCP port 8083
Transport layer/MSMNetworkUtilityService: .... UDP Port 20034	MSMNetworkUtilityService: .... TCP port 8084
Transport layer/MSMSNMPTrapReceiver: ....TCP port 8083	MSMNorthboundservice: .... TCP port 8085
Transport layer/MSMRestrictedSiteService:......................TCP Port 8087	MSMSNMPNorthboundService: .... TCP port 8086
Transport layer/MSMSNMPDataCollectorService:.............TCP port 8088	

SECURITY

User login required, min 4 letters, upper/lower case & number

Specifications are subject to change without prior notice

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FEATURES AND STATISTICS

DASHBOARD

- Total number of sites connected
- Number of sites in alarm
- Number of offline sites
- Solar energy generated in the last 24 hours

MAP VIEW	LIST VIEW
• Server data update interval every 10 minutes • Map data from BING or similar service • Use of JPG or BMP image as replacement to BING maps • Site locations • Visible monitors (6)	• Site Name • IP Address • Controller Type • Number of Major Alarms • Number of Minor Alarms • Connection Status • Alarm monitors (6) (default: Mains Voltage, Battery Voltage, Rectifier Current, Battery Temperature, Solar Current) • SNMP for 3rd party controllers

ENERGY TREND, SINGLE SITE

Server data update interval, typical	• Daily
Energy from solar, wind, generator, rectifiers, DC load (Multi Tenant) and auxiliary equipment on mains	• Pie chart 24h/30d/50w (%) • Line chart 30h/30d/30w (kWh)
Generator run time, fuel consumption and efficiency (hybrid sites only)	• Line chart 30h/30d/30w (m), (I), (kWh/l)
Battery charge and discharge	• Bar Diagram (Ah) total
Battery back-up time	• Instant elimination and target (h)
Alarm Report	• Hourly
Solar CO2/OPEX savings trends	•

RUN HOURS

Generator, Grid, Battery	• Table min/day, Hours/week, Hours/Month
Eltek Cooling box (ECB), Aircondition	• Line chart 30d/30w/30months

COMPARE (COMPARISON OF SITES)

Server data update interval, typical	• Daily
Energy from solar, wind & renewable in total, Renewable versus total DC system or Mains energy	• Site versus Site • Group versus Site • Group versus Group • Bar diagram 30h/30d/30w (kWh), (%)
Energy usage DC Load, Multi tenant: (up to 8 channels)	• Site versus Site • Group versus Site • Group versus Group • Bar diagram 30h/30d/30w (kWh), (%)
Generator run time, fuel consumption and efficiency	• Site versus Site • Group versus Site • Group versus Group • Line chart 30h/30d/30w (m), (I), (kWh/l)
Battery temperature	• Site versus Site • Group versus Site • Group versus Group • Bar Diagram average (°C or °F)
Alarm Report	• Hourly

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FEATURES AND STATISTICS - CONTINUED

KPI VIEW [ENERGY]

Energy (Solar/Wind/Generator/Grid)	• Total • Last 30 days • Average run hours (generator only) • Average fuel efficiency (generator only) • Low fuel level (generator only)

KPI VIEW [PERFORMANCE]

Energy	• Solar energy • Wind energy • Grid, other • Grid availability
Battery	• Near end of life • Backup time • Average battery temperature • Charge condition • Symmetry alarms
Generator	• Average run hours • Average fuel efficiency • Low fuel level
Connectivity	• Quality • Frequent loss of connectivity
Cooling	• ECB (Eltek Cooling Box) run time • Air conditioner run time

DETECTION OF UNDERPERFORMING SITES

Automatic detection of underperforming sites	• Use of Battery, Energy, Generator and network Connectivity, Cooling • KPI

BATTERY STATUS

Presentation of Battery Condition	• Bar diagram • Battery Life Days Remaining • Battery Backup Time
Smartpower & Grid Services Features	• Battery health / quality statistics • Battery testing / config • Battery detailed test overview with SoH

GRID STATUS

Grid Availability	• Run time • Bar diagram 30h/30d/30w (h), (%) • Pie chart 30h/30d/30w (h) (%)

ALARMS (SNMP, ELTEK / DELTA)

Rolling alarm view	• See all alarm traps sent from controllers connected to the MSM • Filter by status, system template, search on site/ alarm description and time interval
Alarm details view	• See all active and historical alarms on a site/group • Filter by severity and date • Statistics about how long the site has been in alarm, and on witch level
Ranking of sites "In Alarm" time (all sites ranked)	• Shows an overview of how long a site has been in alarmstate compared to the other sites
Polling alarms (other)	• Alarm traps

Specifications are subject to change without prior notice

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FEATURES AND STATISTICS - CONTINUED

LOGS

Event log	• Log of site status change and email report sent
Change log	Logs when sites are altered: • Configuration upload • Firmware upgrade • SNMP configuration changed

EMAIL REPORTS — Trigger type

Alarm Report	• Active alarm
Underperforming report	• Underperforming
Energy report	• Hourly, Daily, Weekly interval • Daily Energy summary (new) • Weekly Energy summary(new) • Daily Energy usage per site for last days(new)
Site summary report	• Hourly interval • Daily interval • Weekly interval • Monthly interval • Quarterly interval • Yearly interval
Run hour report	• Monthly interval
KPI report (global report)	• KPI Trigger

SITE SURVEILLANCE

IP camera integration	• Visual surveillance of remote sites

3RD PARTY APPLICATION SUPPORT

• Launch 3rd party applications through MultiSite Monitor
• Ticketing system

SITE INVENTORY

Serial numbers

Warranty alert

Module type

Part numbers

Hardware version

Software part numbers

Software version

Warranty period

Delivery date

Battery

Serial numbers etc. from Smart batteries

SITE MANAGEMENT

Deployment of configuration to multiple controllers	
Automatic SNMP configuration on connected controllers	(requires controller software v.2.3 or higher)
Compare controller configurations	
Show and upgrade controller firmware	
Northbound Communication	• EDM Panama (XML format) • SNMP w/MultiSite Monitor KPIs

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MAP VIEW / DASHBOARD (EXAMPLE)

CUSTOM JPG/BMP VIEW/ DASHBOARD (EXAMPLE)

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ENERGY TREND, SINGLE SITE (EXAMPLE)

COMPARE (COMPARISON OF SITES) (EXAMPLE)

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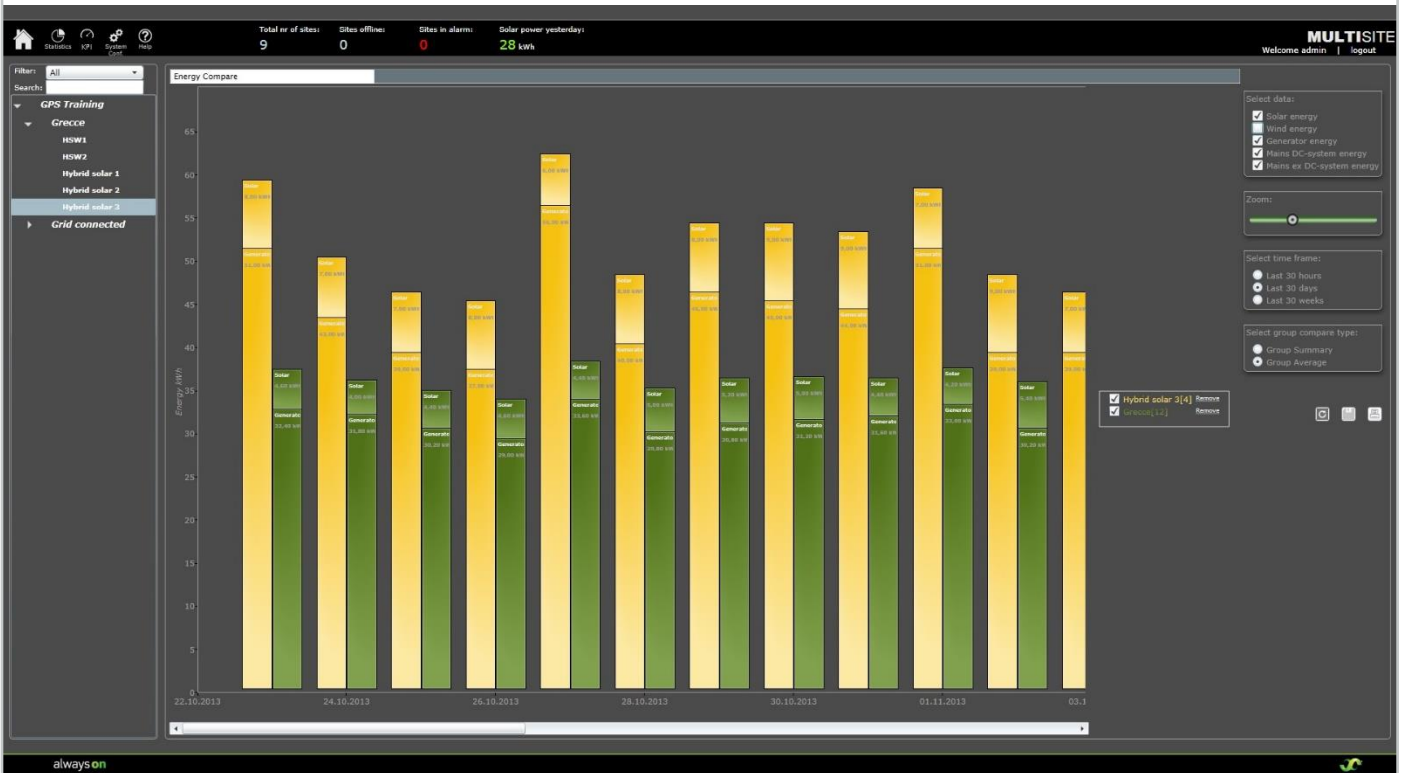
KPI VIEW [ENERGY] & [PERFORMANCE] (EXAMPLE)

ALARM DETAILS VIEW (EXAMPLE)

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ALARM RANKING (EXAMPLE)

ROLLING ALARM VIEW (EXAMPLE)

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COMPARE CONFIG

ELTEK COOLING BOX (ECB)

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ENERGY SAVING FROM RENEWABLES (EXAMPLE)

MONITORING REMOTE SITES BY CONFIGURABLE SNMP (EXAMPLE)
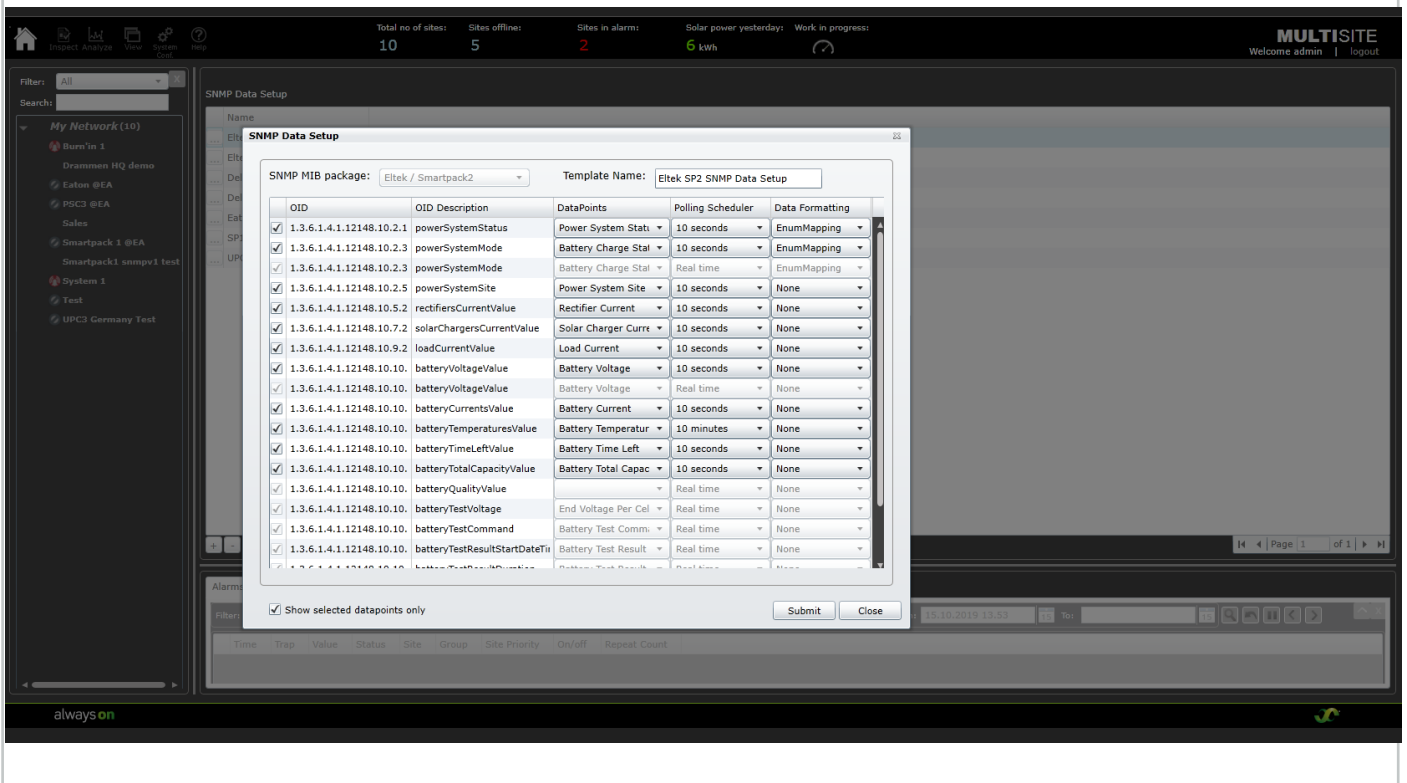
This product is CE marked and complies with all current requirements for relevant standards and directives.

C E

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