Power Economizer GmbH

Power Economizer Server

Full Feature List

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1 Features

Feature	S	L	KNX
868 MHz	X	X	X
KNX			X
Web based User Interface	X	X	X
Multiple Gateways	X	X	X
More than 10 different user accounts		X	X
E-Mail notifications	X	X	X
Scheduling	X	X	X
Custom schedule exceptions	X	X	X
Control node permissions	X	X	X
Dependencies	X	X	X
Light support	X	X	X
Heating support	X	X	X
Electronic devices/Power sockets support	X	X	X
Vista Sidebar Gadget	X	X	X
Outlook 2007 Add-In	X	X	X
Individual dashboard	X	X	X
Remote Desktop integration	X	X	X
Active Directory integration (optional)	X	X	X
Remote server/client power-up (Wake-On-LAN)	X	X	X
Remote computer shutdown (Windows, Mac and Linux)	X	X	X
Mobile Web App (iPhone, Windows Mobile)	X	X	X
Intuitive object wizards	X	X	X
RF range test	X	X	X
Backup/Restore support	X	X	X

Table 1 Feature overview

1.1 868 MHz

The supported 868 MHz protocols of Power Economizer Server are:

- FS20 (RF based protocol for switchable and dimmable components)
- FHT80b (RF heating system)

For a list of supported components see table below.

Product ID	Product Name	Manufacturer
68-852-84	FS20 SU-2 Unterputz-Funk-Schalter	ELV Elektronik AG
68-857-98	FS20-Schaltnetzteil für LEDs FS20LD	ELV Elektronik AG
68-858-12	FS20-Halogenlampen-Dimmer FS20 HLD	ELV Elektronik AG
68-858-33	Aufputz-Schalter-/Dimmer-Kombination FS20 AS3D1	ELV Elektronik AG
68-858-27	FS20 1-Kanal-Universal-Empfänger UE1, Fertiggerät	ELV Elektronik AG
68-858-39	FS20 Wechselschalter, 1 Kanal FS20WS1	ELV Elektronik AG
68-536-82	FS20 MS-2 Funk-Markisensteuerung	ELV Elektronik AG
68-852-86	FS20 ST-3 Funk-Schaltsteckdose	ELV Elektronik AG
68-851-92	Funk-Dimmer FS20 DI-4, Phasenanschnittdimmer	ELV Elektronik AG
68-852-82	FS20 Unterputzdimmer FS20DU-2	ELV Elektronik AG
68-755-50	FS20 DI10 Funk-Dimmer für elektronische Vorschaltgeräte	ELV Elektronik AG
68-769-80	FS20 DI20-3 Funkdimmer Anschlussleistung: 25-200 VA	ELV Elektronik AG
68-846-29	FS20 DI22-3 Funkdimmer, Anschlussleistung: 0-200 VA	ELV Elektronik AG
68-623-63	FS20 AS1 Funk-Aufputzschalter	ELV Elektronik AG
68-470-12	FS20 SA Funk-Aufputzschalter	ELV Elektronik AG
68-461-35	FS20 AS4 4-Kanal-Funk-Aufputzschalter	ELV Elektronik AG
68-835-57	FS20 RSU Unterputz-Funk-Rollladenschalter	ELV Elektronik AG
68-619-29	FS20 AMS Automatische Markisensteuerung	ELV Elektronik AG
68-755-53	FS20 USR1 Universal-Sound-Recorder	ELV Elektronik AG
68-577-89	FS20 ST Funk-Schaltsteckdose	ELV Elektronik AG
68-851-88	FS20 DH20-2 Phasenanschnittdimmer	ELV Elektronik AG
68-567-26	FS20 EAM Funkempfänger	ELV Elektronik AG
68-570-22	FS20 SH Schaltmodul	ELV Elektronik AG
68-842-55	FS20 RPT-2 Funk-Repeater	ELV Elektronik AG
68-576-96	FHT 80B-2 Funk-Heizkörperthermostat	ELV Elektronik AG
68-576-44	FHT 8V Funk-Stellantrieb mit Adapterset	ELV Elektronik AG
68-576-99	FHT 80 TF Funk-Tür-/Fenstermelder	ELV Elektronik AG
68-849-19	Funk-Tür-Fensterkontakt FHT80TF-2	ELV Elektronik AG

Table 2 Supported RF home automation components

1.2   KNX

Power Economizer Server supports KNX based environment through a KNXnet/IP capable gateway for following KNX Datapoint types:

- Datapoint Types B_1 (Switching)
- Datapoint Types B_1U_3 (Dimming up/down)
- Datapoint Types "8-Bit Unsigned Value" (Percentage)
- Datapoint Types "2-Octet Float Value" (Temperature)

For a list of supported components see table below.

Product ID	Product name	Manufacturer
5WG1 148-1AB21	KNX EIB – IP-Schnittstelle N148/21	Siemens AG
2CDG 110 098 R0011	IPS/S2.1	ABB

Table 3 Supported KNX gateways

1.3   Web Based User Interface

Manage and control the Power Economizer Server through a web based user interface. Based on user roles, the interface acts either as a control or management interface. The Web application is hosted on a server located in the local area network. It can however be reached from outside with appropriate configuration.

By using Microsoft ASP.NET, Silverlight and AJAX, the application provides a rich user experience and is accessible through most of the modern browsers.

1.4   Multiple Gateways

To extend the radio frequency range, the system supports the usage of up to 10 simultaneous gateways by using multiple RF zones.

These zones can further more be used to structure the logical premises of the building.

1.5   Multiple Users

The Power Economizer User and Role Management allow an administrator to create independent user or administrator accounts. Thereby user accounts can be assigned to individual objects, which give the administrator the ability to manage object permissions.

1.6   Scheduling

One of Power Economizer Server's core features is its ability to assign an individual schedule to each object.

A schedule defines the operational intervals (On-Mode) of its assigned objects.

Each schedule represents a generic weekly program. Exceptions for specific dates (e.g. vacations or holidays) can be set through the calendar schedule view.

1.7 E-Mail notifications

The system can be configured to send e-mail notifications to users, whose assigned objects are affected by scheduled shutdown and power down events.

By logging into the web application, the user can halt the shutdown/power down until he finally logs out.

1.8 Permissions

By assigning users to each object, the administrator is able to restrict the access of its controllability.

1.9 Dependencies

By using the dependency feature, objects can be made dependent upon others. For example, scenarios such as powering up peripheral devices while a specific computer is booting, can be created.

1.10 Light support

The Power Economizer light feature supports switchable as well as dimmable light objects. Dimming is achieved by setting a percentage value through the intuitive slider control.

Light objects can also be controlled through several dashboard applications such as a Windows gadget, an Outlook add-in or mobile phones.

1.11 Heating support

Thermostat objects of Power Economizer can either be manually set to a specific set-point temperature or set to its comfort/economized temperature by the schedule engine.

Each thermostat can be assigned a custom comfort/economized temperature, an individual lead and follow-up time and will display its actual temperature.

The actual status events such as open windows and low battery warnings will also be displayed on the user interface.

1.12 Electronic devices/power sockets support

Power Economizer supports controlling of electronic devices and power sockets by using a radio-based power plug, such as the FS20 ST-3.

Every device object can be configured to restrict manual power off through the web interface. This is useful for shared devices such as printers.

1.13 Remote wake-up and shutdown support

Beside the ability to control RF components, the Power Economizer Server System also supports the unattended remote wake-up and shutdown functionality, to save energy and reduce CO_2 emission.

Remote booting of a computer is realized through the use of Wake-On-LAN (Magic Packet) and can be triggered either by user or schedule events. The implemented shutdown mechanism uses the onboard methods of the operating system (e.g. WMI, SSH, etc.) to ensure a proper shutdown.

For most operating systems several shutdown methods, such as hard/soft shutdown, hibernate or standby mode, are available.

The difference between hard and soft shutdown is, that the soft shutdown sequence will not proceed, if any unsaved documents are opened on the user's desktop. Hard shutdown will disregard any unsaved data or opened applications and will force the shutdown.

1.14 Object Wizards

Object setup is made easy by using the intuitive and simple wizard found in the infrastructure section of the web application.

Each object type has its own guided setup wizard which is derived from a common set of setup steps.

1.15 Dashboard

Each user has access to his personalized dashboard by logging into the web application.

Apart from the regular AJAX-based control page, the dashboard provides a rich control experience by using Microsoft's new Silverlight technology.

Due to the implementation of object permissions a specific user is only able to view and control objects that have been assigned to him.

Figure 1 Silverlight dashboard

1.16 Gadget/Outlook Add-In

The Power Economizer Gadget for the Windows Vista Sidebar and the Windows 7 Desktop or the Outlook 2007 Add-In allows the user to control all objects that are assigned to him.

By encapsulating the Silverlight dashboard, the gadget and the add-in provide the same user experience as the web application.

Figure 2 Windows Vista Sidebar Gadget

1.17 iPhone support

Got an iPhone? - No problem, Power Economizer Server provides a custom Web Application especially developed for the iPhone. This enables an iPhone user to monitor and control all of his objects, including computers, from virtually anywhere.

1.18 Active Directory Integration

Instead of using the internal User Management, Power Economizer Server is able to integrate itself into an existing Active Directory. This eliminates the need for a redundant user management, because all accounts are accessible through the Active Directory.

1.19 Backup/Restore

An administrator is able to create a full system configuration backup/restore at any time by using the integrated function. These backup files can be stored in a different location. In case of a disaster, the entire backup configuration can easily be imported after a reinstallation of the Power Economizer Software.