GridLight Solo™

Product sheet

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GridLight Solo is a wireless streetlight control system which is based solely on the use of SMS both in connection with controlling the light and configuring the system.

GridLight Solo does not require a server and merely consists of a number of GridLight modules which are installed in each street cabinet.

A GridLight Solo solution consists of an AmsCPU module and an AmsSwitch module. With this solution you can turn the streetlights on/off. The solution can, however, easily be extended to cover monitoring and battery backup by adding an AmsCurrent module and an AmsBattery module, respectively. The different solutions are described on the next page.

The AmsCPU module has a built-in web server which is configured before the module is installed in a street cabinet. This is done by connecting the AmsCPU module to a PC and configuring it by means of a web browser. For that reason, no separate software installation is required in order to configure the system. Changes to configuration after installation are made by means of SMS.

GridLight Solo can later on request be upgraded to a full server-based GridLight system which offers wider functionality.

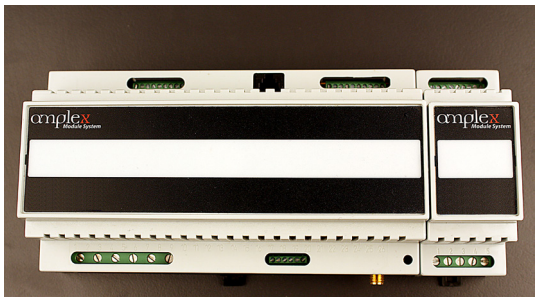
With the GridLight Solo solution the streetlight is controlled by a twilight table which contains the sunrise and sunset times for the location for all days of the year. If desired, an offset for sunset/sunrise times can be specified in the twilight table.

It is also possible to connect an analog or digital photocell to the AmsCPU module. The photocell controls the streetlight in combination with the twilight table.

Additionally, a door switch can be connected to the AmsCPU module. This provides the option of monitoring if the street cabinet is wrongfully open.

Features

+ Inexpensive start-up - install only a few modules in each street cabinet and the system is up and running.
+ Short installation time - The AmsCPU module is connected to a PC and configured. Then the modules are installed in a street cabinet and the system is up and running.
+ Easy control of the streetlight via SMS - turn the streetlight on and off or request light status via SMS.
+ Ongoing configuration via SMS - reconfigure the system easily via SMS when needed.
+ No expenses for server operation - and thus minimization of operating costs.
+ The only fixed expense is SIM cards - comprising expenses for alarm issuing and clock synchronization.
+ Can be upgraded to a GridLight server solution - and thus full use is made of the existing investment in connection with upgrading to the more advanced GridLight solutions.
+ Automatic time setting - sets time itself via international time server. Built-in backup battery ensures correct time at start-up after power outage.
+ Optional Smart Phone app for simple configuration changes and controlling of mulitiple locations simultanously.



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GridLight Solo consists of an AmsCPU module and an AmsSwitch module which are installed in a street cabinet. With this solution the streetlight is turned on/off by means of a twilight table and a photocell if one is connected to the AmsCPU. Furthermore, you can turn the light on/off or request light status by the use of SMS, just as configuration of the single street cabinet can be changed via SMS. Ideal in connection with maintenance of the street cabinet.

Overall, the following actions can be performed with an GridLight Solo solution:

- Turn the streetlights on/off
- Request light status (on/off?)
- Change times in twilight table
- Change/specify offset for sunset and sunrise times in twilight table
- Change LUX values for the analog photocell

GridLight Solo - Monitoring and Battery backup

A GridLight Solo solution can be expanded with an AmsBattery module and/or an AmsCurrent module.

An AmsBattery module provides the option of monitoring power outage in the street cabinet. In the event of power outage, the AmsBattery module supplies the AmsCPU with power and a power outage alarm is issued.

An AmsCurrent module provides the option of monitoring the street cabinet by measuring current on the single phases. An alarm is issued if for example the streetlight is turned off when it should be turned on and vice versa, just as an alarm is issued if current leakage is detected.

GridLight Solo - alarm overview

Alarms	AmsCPU+AmsSwitch	AmsBattery (Battery backup)	AmsCurrent (Monitoring)
Cabinet door open	X		
Power cut on one or two incoming phases	X		
Main power failure - AmsCPU is supplied with power from the battery		X	
Power cut on outgoing phases			X
Light is off, but should be on			X
Light is on, but should be off			X
Leakage detected			X

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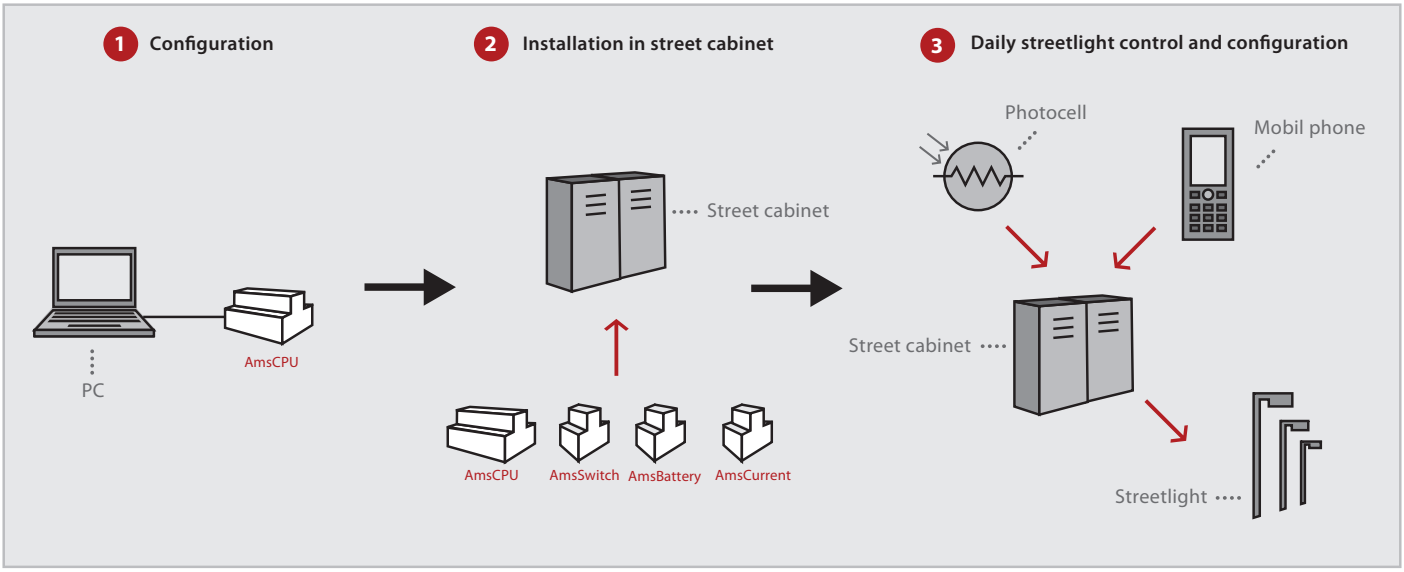
Overall setup overview



1. Configuration

The system is configured the first time by connecting the AmsCPU module to a PC by means of the Ethernet port. Open a web browser, enter the web address supplied by Amplex and subsequently configure the module as desired.

The web page which is used to configure the module can be found on page 4.

2. Installation in the street cabinet

When the AmsCPU module has been configured, it is installed in the street cabinet along with the other modules.

Details concerning installation can be found on page 5.

3. Daily streetlight control and configuration via SMS

When the modules are installed in the street cabinet, the system runs automatically and the streetlight is turned on/off by means of the twilight table and a photocell if one is connected to the AmsCPU module. Hereafter, in connection with maintenance the configuration of the single street cabinets can be changed by use of SMS. In addition, the streetlight can be turned on/off manually for one or more street cabinets, also by use of SMS. If needed, the status of the streetlight can also be requested by use of SMS.

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Example of the web interface for configuration

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Parameters SMS Commands

Factory setting loaded. Click 'Apply changes' to save & apply.

Parameters	Value	Description
Position	56.197525,10.674441	Position of the cabinet in signed degreees eg. Amplex: '56.157,10.193'. These can be taken from, or entered into maps.google.com. Use <menu> => "What's here?" to show position. Eg: http://maps.google.com?q=56.157,10.193
Timezone	GMT +01 Brussels, Copenhagen, Madrid, Paris	Timezone of the cabinet. Used for calculating local time. A unique substring may be used when setting via SMS. Eg. country capital.
Sunrise_offset	0	Offset from sunrise in minutes to turn light off eg. "-30"
Sunset_offset	0	Offset from sunset in minutes to turn light on eg. "30"
Alarm_on_digin	0	Set to 1 if an alarm switch is wired to "digital in" and ground. Set to 0 to disable.
Alarm_on_digin_on	Door open	Text to send when "digital in" is connected to ground.
Alarm_on_digin_off	Door closed	Text to send when "digital in" disconnected.
Alarm_on_anain	-1	Set threshold in millivolts where analog input alarm triggers. Value between 0 and 10V (0-10000). Set to -1 to disable. The impedance is 510 Ohms so input current in mA is mV / 510. Must be wired to the "Analog Input 2" terminal.
Alarm_on_anain_on	Door open	Text to send when input voltage exceeds threshold.
Alarm_on_anain_off	Door closed	Text to send when input voltage drops below threshold.
Doorswitch_on_phase	0	Set to 1 if a door switch operated lamp (230V) is wired to power terminal "230V AC Analog in"
Phases_wired		A comma separated list of phase inputs to monitor (1-3) eg. 1,2,3
Photocell_digital	0	Set to 1 if a digital photocell is wired to digital_in. Must be of "contact closed when dark" type.
Photocell_threshold	0	Set to the lux threshold of a ServoDan 43-198 photocell. Must be wired to "Analog Input 1" terminal according to diagram.
Photocell_active_zone	60	Number of minutes before sunrise/sunset the photocell is enabled
Currentsensor_wired		A comma separated list of wired current coils (1-6) eg. '1,2,3'
Leakage_threshold	0	Set maximum leakage in mA if a leakage sensor coil is wired.
Alarm_telno		Comma separated list of phone numbers to receive alarms. Each number must start with +<countrycode> eg. +4521...
Trusted_telno		Comma separated list of phone numbers allowed to control the cabinet. Each number may end in '*' as a wildcard. I.e. '*' means all allowed.

Apply changes | Reload current settings | Load factory settings

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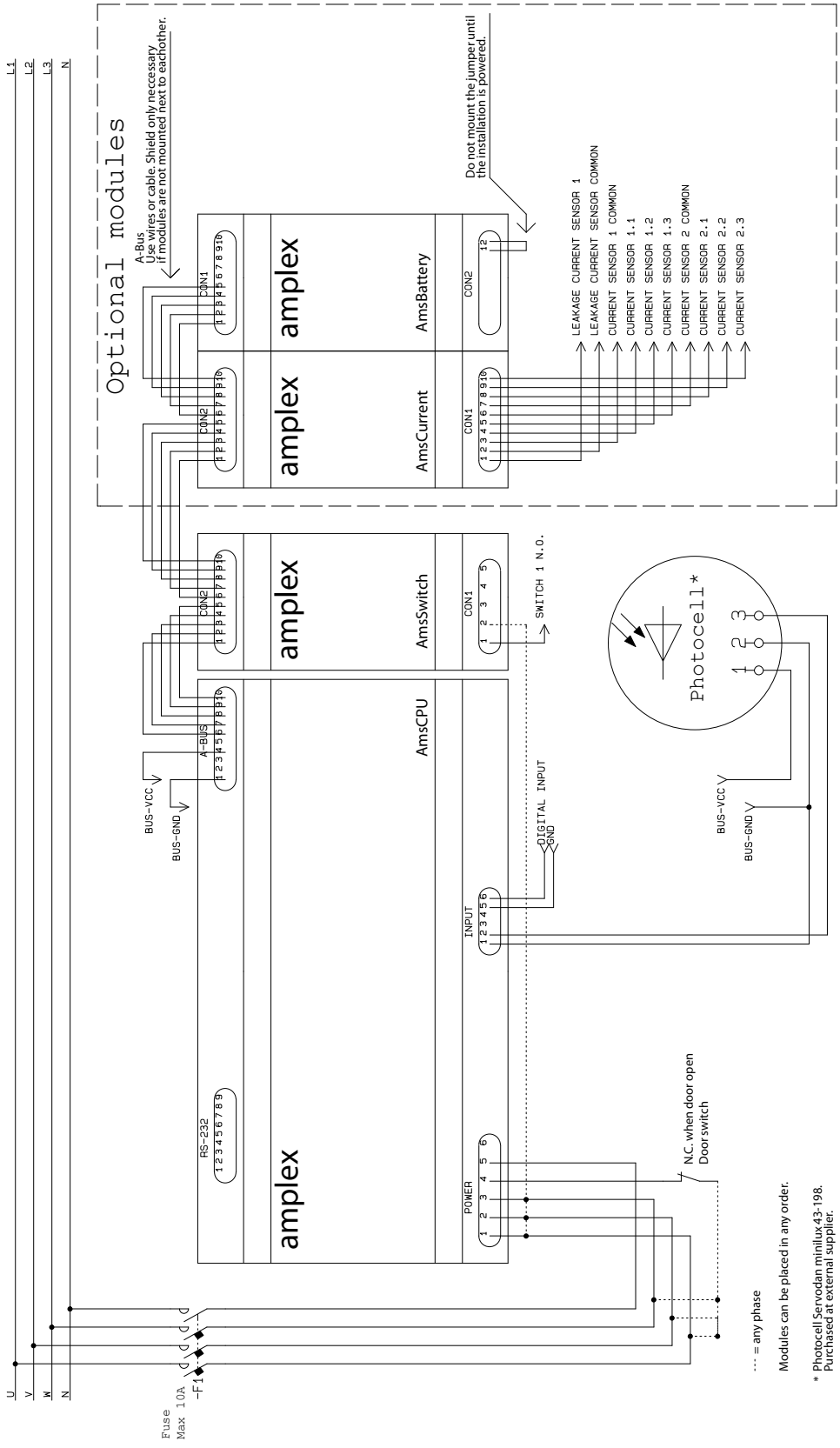
Wiring diagram



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