

# Configuration Guide for the Control Unit LUMiMASTER SLC-NOM

version FW 20180710

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## **Status of LED indicator**

Green	Yellow	Red	Status
Light	One flashing	No Light	Operating system starting
Light	One flashing	Light	Start failed (bad firmware/damaged flash)
Light	Twice flashing	No Light	Falcon running
Light	Twice flashing	Light	Falcon running, communication error with external devices
Light	Light	Light	Stuck/Severe error/After starting
Light	No Light	No Light	Stuck/Severe error/After starting
Light	Light	No Light	Stuck/Severe error/After starting
No Light	No Light	No Light	The supply voltage is missing

### **1 How to Connect to LUMiMASTER**

Log in to the LUMiMASTER SLC-NOM through LAN cable. Launch your web browser (Chrome is recommended) and type in the default address 192.168.0.254 and enter.



If you have a problem with connecting, check the configuration of Internet Protocol Version 4 (TCP/IPv4). IP address and subnet mask must be set according to this picture.

v4 (Internet Protocol Ve	ersion 4) Pr	roper	ties		
eneral					
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.					
Obtain an IP address automatically					
lowing IP address:					
[	192.168.0.15	. 150			
c: [	255 . 255 . 255 . 0				
way:					
IS server address automa	tically				
ollowing DNS server addre	esses:				
NS server:		•			
VS server:					
settings upon exit		[	Advanc	ed	
setungs upon exit		ОК	Advand	the second secon	

After a successful connection, you see in your browser the introduction window of Falcon web interface. It has two separately functioning parts: System configuration – set up system features and Falcon – lighting control



Open tab "System configuration" and fill in the registration data:

- as administrator - name: admin password: [rturocks] (please always change the default

password for security reasons)

- as operator– name: op password: compact

After successfully login, a section of system settings will be opened.

## 2 Adjustment systems

#### 2.1 System tab

In this tab you can set up:

- Timezone & Time set up the time zone and the current time
- NTP client set up the Internet time server
- E-mail settings set up a mail to send messages about alarms. Fill in "Mail server", "Port", "User" and "Password". Other windows do not need to be filled in as this information is filled directly in Falcon in the "Messaging" tab.

•••						_
RTUAdm System	in Network Modem User management	DDNS	Firewall HTTP server Tools + Jo	urnal Open	DAF Maintenance	=
System s Hostname	settings	Support VF	PN connection	Timezone &	Time	
Hostname:	falcon Apply OK	Active: Enabled:	false	Timezone:	Europe/Bratislava	
			Apply	Date:	06.06.2017	
				Time:	09:51 Apply	
NTP client	E	E-Mail setti	ings			
Enabled: NTP server:	Ø pool.ntp.org	Enabled:	Apply			

#### 2.2 Modem tab

You need to enter configuration of GSM modem if you want to use SIM card. You must have an active data SIM card with a dynamic public IP address or static IP address, which is preferred, but if not available, it is also possible to use DDNS service to work around it. GSM provider must allow inbound TCP/IP connections to the SIM card. LUMiMASTER is using Standard SIM size.

To configure GSM Modem, the SIM card must be inserted already. (Insert the SIM card while LUMiMASTER is powered off.) Check "Enabled" to allow communication over GSM. If the card is protected by the PIN code, check window "PIN" and fill in PIN code. (We recommend using a SIM card without PIN blocking). Fill in window <u>"APN</u>" (provided by the operator) confirm "Save" and wait for the connection using by ppp0. After successful connection, if you use a SIM card with a static IP address, you can connect to the LUMiMASTER by IP assigned address. If you are using a SIM card with a dynamic public IP address, you need to fill in the <u>DDNS</u> tab.

RTUAdmin System Network Modem User m	anagement DDNS Firewall HTTP server Tools	<ul> <li>Journal OpenDAF Maintenance</li> </ul>
Modem		
Configuration Enabled	Registration status Acquired on	
PIN PIN	2017-06-06 10:34:01.000	
APN	RSSI	
internet.vip	-81 dB (16)	
Number	Service status	
*99#	valid service (2)	
Test hosts:	Domain	
	PS+CS service (3)	
bbA	Access technology	
	WCDMA (5)	
Save Revert	Sim state	
	Valid USIM card state (1)	
	0	
Connection status		
3: ppp8: <pointopoint,multicast,noarp,up,l link/ppp inet 95.105.139.68 peer 10.64.64.64/32 scc valid_ff forever preferred_lft forever</pointopoint,multicast,noarp,up,l 	CNER_UP> mtu 1500 qdisc pfifo_fast state UNKNOWN gro pe global ppp0	oup default qlen 3

#### 2.3 DDNS tab

Dynamic DNS (or DDNS) allows connecting to Lumimaster even if we do not have static IP address associated with the SIM card. In order to use it, you need to create account at one of the DDNS providers (dyn.com or noip.com).

If you have created a DDNS server account, after selecting "Enabled" you need to fill in the relevant information. Once the data has been completed and validated, after login to the network it is possible to connect to the unit (in this case the IP address is seak1.dyndns.biz). The connection depends on the time set in the "Update period" window, which determines how often (in minutes) the SIM card updates its current IP address. Keep in mind that you need to wait this interval also after power failure to connect.

		$\equiv$
RTUAdmin System Network	Modem User management DDNS Firewall HTTP server Tools + Journal OpenDAF Maintenance	
Dynamic DNS Configure your DDNS pr	rovider	
Provider: Login:	dyn.com  seakenergetics	
Password: Retype password:		
Hostname:	seak11.dyndns.biz	
Update period [m]:	10 Save Reload	

## 2.4 User management tab

This tab allows to change the access data (login, password) for administrator and operator. For security reasons, we recommend that you change your login password after first log in.

		Ξ
RTUAdmin System Netr	vork Modem User management DDNS Firewall HTTP server Tools + Journal OpenDAF Maintenance	
User manage	ement	
User: Name:	op (RTU operator)  v	
UID: Full name:	2001 RTU operator	
Privileged:	Edit Add Delete Ok Cancel	

#### 2.5 Maintenance tab

It allows to upgrade the firmware and check the current firmware version. You can find the upgrade manual after opening this <u>link.</u>

	$\equiv$
RTUAdmin System Network Modem User management DDNS Firewall HTTP server Tools - Journal OpenDAF Maintenance	
Maintenance	
Release: 20170529 Linux version: 3.14.57	
C Reboot	
C Restart app	
Firmware update File: Vybrať súbor Nie je vybratý žiadny súbor Submit	
Restore configuration File: Vybrať súbor Nie je vybraťý žiadny súbor Submit	
Linux kernel update File: Mytrat súbor Nie je vybratý žiadny súbor Submit	
 Never cower off the device while uploading the linux kernel! Wait until update is completed! The board would become unbootable!	

## **3 Lighting control configuration**

#### 3.1 Main tab

In all tabs it is possible to make certain changes to the settings. In tabs Overview, Communications, Modulators, Groups, Luminaires, Remote IO, Digital Inputs a Alarms you make changes by activating Configuration Edit mode. In other tabs SSR, Scheduler, Astroclock, Rules, Messaging and Site you make changes the settings directly on the tabs in Configuration Run mode.



#### 3.2 Overview tab

You will see this information:

- System overview temperature in the cabinet if you have a temperature sensor (DS 18S20 +) and the current time and date.
- Digital I/O configured digital inputs and their status.
- Power meter via the configuration setting it is possible to connect and display digital type electrometers types as Elnet and Satec after Modbus RS485. Through the digital input it is possible to connect any pulse electric meter, where it is also possible to set its number of pulses. When you configure, the power meter must not be assigned the same addresses as modulators.
- Events list of alarm events

Overview Modulators Groups Luminaires	Chargers Site Advanced				Configuration RUN - Modula	itor + 30.7.2018 12:09 Stat
stem overview			Digital I/O			
mperature 37.9 °C	Time	30.7.2018 12:09	(no description)	Door contact	closed AC fail in	nput good
			Darkness sensor da	зу		
ver meter			Events			
configured			Filter Active	•		
			Occured	Diminished		Event

#### 3.3 Modulators tab

Through the status Configuration Edit, you add the modulators. After adding the modulator, it is possible to set the value of the periodic measurement of the electric current and periodic setpoint restore period in seconds. This is especially useful when you use StreetLite to keep this value up to date.

• • •			
			$\equiv$
Verview Modulators Groups L	uminaires Chargers Site Advanced +	Configuration EDIT + Modulator 1 + 30.7.2018 12:23	State: OK
You are now editing a working copy. O Save wor	ang capy Revert working capy		
Configured modulators Modulator #1	Status Address:		
New modulator:	1		
2 Add	Periodic current measurement period (s):		
	Periodic setpoint restore period [s]:		
	Alternative interrogation disable		
	Apply Delete		

Once added, a window appears with a list of configured modulators "Configured modulators", "Status" with the status of modulator, Actual values of the measured quantities. You can send

broadcast commands or control luminaire status there (the display in this window is dependent on the type of connected modulator and type of communication - one way or two way) and "Group setpoints", where the group of luminaires and their currently set value are displayed. In this tab you can configurate characteristics, when motion will be detected. You find detailed manual for motion settings after opening this <u>link.</u>

Overview Modulators Group	s Luminaires Chargers Site Advanced +					
				Configuration RUN + Modulator 1 + 30.7.2018 12:11	9 Stat	
Configured modulators	Status	Motion	settings	Group setpoints		
((m))	1	Enabled:	No	Group	Por	
			Apply	#18 (group1)	24	
	PSM State: READY [20]	Eade sten (ms):		#19 (#round?)	24	
		rade step (ms).		and Groups)		
	Modulator class:		Apply	#20 (group3)	24	
	He defense and the			#21 (group4)	24	
	OK after coding [2]					
	217					
	Command queue length:					
	Setpoint [%]:					
	Modulator temperature ["C]:					
	30.00					
	Voltage [V]:					
	244	244				
	Current [A]:					
	0.9 2018-07-27 12:32:23.278 + Meas					
	Current measurement period [s]:					
	Luminaire state:					
	0@13 2018-07-28 21:03:03.632 Get stat					

State of modulation unit (modulator state) is indicated by a code. Overview of all codes is shown in this table:

State code	State	Description
0x01	Ok	The device is ready for coding
0x02	Ok after coding	This code is returned at the first request on state of successful coding
0x03	Overheat during coding	This code is returned if the device was overheated during coding, thus the coding was not successful.
0x04	Coding	This code is returned if the coding has not finished yet and there is no error
0x05	Overheat	Information of an overheated device. It is necessary to wait for its cool-down
0x06	Missing power supply	Information that there is no power supply connected to the power modulators
0x07	Other error	Other specified problem
0x08	Modulator error	Hardware problem on some of the modulators or an overload
0x09	Measuring	Device is measuring current or receiving luminaire response
0x0A	Overheat after coding	This code is returned if the device was overheated after successful coding. After read, state changes to 0x0005 - Overheat.
0x0B	Overvoltage	Information that was measured overvoltage (voltage over 260V). It is necessary to wait for normal voltage
0x0C	Overvoltage after coding	This code is returned if the device measured overvoltage after successful coding. After read, state changes to 0x000B - Overvoltage.

### 3.4 Groups tab

It allows to create, edit and directly control of groups of luminaires.

## 3.5 Luminaires tab

It allows to add and edit individual luminaires, allocate them to groups, check their status, save them on the map via GPS coordinates and control.



#### 3.6 Chargers tab

It allows to configure and monitor the status of EV chargers, enabled/disable charging, set up maximum charging current and current limit and measure of current on all lines.

• • •					
Overview Modulators Groups Luminaires C	argers Site Advance			Configuration RUN - Modulator 1 - 30.7.2018 13:49	Stat
Configured lumichargers	Status:	Properties 0 vehicle-not-connected (11 hours ago)	∳ Query		
	Charging:	Enabled	ゆ Enable ゆ Disable		
	Charging current:	0 6	0 0 🗸		
	Current limit:	16 6	0 0 🗸		
	L1 current:	0-0 A (11 hours ago)			
	L2 current:	0:0 A (11 hours ago)			
	L3 current:	0.0 A (11 hours ago)			
	Latitude:	48,7135			
	Longitude:	19.0887			

#### 3.7 Site tab

By entering and confirming the GPS coordinates of the cabinet, Falcon automatically displays the sunrise and sunset astronomical time.

•••			
			=
¥ Overview Modulators	Groups Li	uminaires Chargers Site Advanced +	Configuration RUN + Modulator 1 + 30.7.2018 12:32 State: OK
Location			
	Latitude	49.00121931	
	Longitude	21.21202638	
	Sunrise	05:04	
	Sunset	20:17	
		✓Save	
Documentation			
+ Add document			

#### 3.8 Advanced

In tabs Advanced is possible to make certain changes to settings in this tab:

	verview	Modulators	Groups	Luminaires	Chargers	Site	Advanced -	
iystem o	overview						Communications Remote IO	
Power m	eter	0.0-C			inne		SSR Scheduler Astroclock Rules Alarms Variables	0 13.40
1 12 1 1 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1	239.6 415.9 0.0 A 50.0 H 0.0 W 0.0 V 0.0 V 0.5 9999. 5170. 5230. -786.	V V Hz A A A 7 W h 2 VA h 7 VArh	V <sub>2</sub> V <sub>23</sub> I <sub>2</sub> F <sub>2</sub> P <sub>2</sub> S <sub>2</sub> Q <sub>2</sub> PF <sub>2</sub> PFLC <sub>2</sub> E <sub>2</sub> ES <sub>2</sub> EQ <sub>2</sub>	240.7 V 416.7 V 0.0 A 50.0 Hz 0.0 W 0.0 VA 0.0 VAr 0.1 9999.0 4983.5 Wh 5031.7 VAh -694.5 VArh	V <sub>3</sub> V <sub>31</sub> I <sub>3</sub> F <sub>3</sub> P <sub>3</sub> Q <sub>3</sub> PF <sub>3</sub> PFLC E <sub>3</sub> EQ <sub>3</sub>	2 4 0 5 0 0 0 0 1 3 9 9 2 2 2	Messaging Maintenance 0.0 A C 60.0 Hz P 0.0 VA 0.0 VA 0.0 VA 0.0 VA 1.0 VAr 0.0 0.0 275.5 Wh 275.5 VAh 2.4 VArh	0.0 W 0.0 W F 0.0 FLC 9999.0

#### 3.8.1 Communications tab

It allows to setting RS485 communication values. Due to high network interference is a probability that not all modulation commands will be executed. Therefore, in the Modulations tab, it is possible to set the number of repeating modulation commands.

• • •		
Overview Modulators Groups Luminaires Chargers Site Adv	nced -	Configuration RUN + Modulator 1 + 30.7.2018 12:37 Sta
S485 settings	Modulation	
evice pnt (\$TTY_PNT)	0	
9600		
arity:		
none		

#### 3.8.2 Remote IO tab

Most common IO modules available on the market can be connected to the unit. In this tab you add IO modules as well as the number of their digital inputs and outputs. Their list is displayed in the "Digital inputs" tab or "SSR" tab.

	Ξ
Overview Modulators Groups Luminaines Chargers Site Advanced + Configuration EDIT + Modulator 1 + 30.7.2018.12.39 State O	ĸ
56 C	
er of digital inputs:	
er of digital outputs:	
nodule -	

#### 3.8.3 Digital Inputs tab

It displays 4 digital inputs of the unit (shown as # 0 - # 3) and possibly other inputs of connected IO modules displayed from # 1100. Each input can be configured separately, assign a function and polarity. If you use Streetlite, it is necessary to fill in the "Purpose" window with one of the offered options.

• • •					
					=
V Overview Modulators Groups Luminaires Charge	rs Site Advanced •				Configuration RUN + Modulator 1 + 30.7.2018 12:41 State: 0
igital input:	Digital input:		Digital input:		Digital input:
*0	#1		#2		#3
escription:	Description:		Description:		Description:
	Door contact		AC fail input		Darkness sensor
urpose:	Purpose:		Purpose:		Purpose:
Power meter	Door contact	•	Power fail	•	Darkness sensor
olarity:	Polarity:		Polarity:		Polarity:
Normally-Opened	Normally-Opened	*	Normally-Opened	*	Normally-Closed
alse level name:	False level name:		False level name:		False level name:
0	closed		good		day
rue level name:	True level name:		True level name:		True level name:
1	open		fail		night
arrent value:	Current value:		Current value:		Current value:
	all		0#		0#

#### 3.8.4 SSR tab

The control unit has 2 outputs for control of semiconductor or suitable mechanical relays marked as 1,2 or other outputs after connection of IO modules and marked with the number 1125.

• • •			
			=
Verview Modulators Groups Luminaires Chargers Site Advanced -			Configuration RUN • Modulator 1 • 30.7.2018 12:43 State:
R	SSR:		
1	2		
irrent value:	Current value:		
fi	off		
tpoint:	Setpoint:		
Off Change to +	off	Change to +	
Set	Set		

#### 3.8.5 Scheduler tab

It allows to set up a time schedule in <u>Cron format</u> for: modulator, group, luminaire, temporary value for modulator, group and luminaire, SSR or digital output, light status reading, alarm activation, deactivation and management, and restoration of the last commands. The temporary command function allows you to send a command without saving, which means you will not figure out when you restore the last commands.

0	wervlew Modulators Groups Luminain	es Chargers Site Advance	d <b>-</b>		Configuration RUN + Modulator 1 + 30.7.2018 12:44	State
	Target	Schedule	Action	Enabled	Interval:	
	Modulator 1 Group 18	24 23 * * *	Set 24	true	• *****	
	Modulator 1 Group 19	24 23 * * *	Set 24	true	minute (0-59): every • a each 2 and	
	Modulator 1 Group 20	24 23 * * *	Set 24	true	hour [0-59]: every • each 2 -nd	
	Modulator 1 Group 21	24 23 * * *	Set 24	true	day of month [1-31]: every • E each 2 -nd	
					(sur, mor, tue,sur) Action type:	
					Group setpoint	
					Group:	
					Modulator #1 Group #16	
					24	
					Enabled	
					Sum Cherrit	
					Survey Control	

#### 3.8.6 Astroclock tab

The basis of lighting control is astronomical sunrise and sunset. This tab allows to define rules based on sunrise and sunset times, which are determined based on GPS position of the unit defined in the Site tab.

Overview Modulators Groups Luminaires Char Sunlight on 21.6.: 04:30 - 20:43     Sunlight on 21.1.2.: 07:26 - 15:39     Target Event	ters Site Advanced + Sunlight today: 05:04 - 20:17			Configuration RUN + Modulator 1 + 30.7.201812-45 State
Target         Event           Value         Sumight on 21.12.: 0726 - 1539	Sunlight today: 05:04 - 20:17			
Target Event				
Mark June 1 Course 10		Action	Enabled	Event:
Moonator 1 Group 10 30 minutes	before sunset	Set 76	true	sunset
Modulator 1 Group 19 30 minutes	before sunset	Set 76	true	Offset (min):
Modulator 1 Group 20 30 minutes	before sunset	Set 76	true	-30
Modulator 1 Group 21 30 minutes	before sunset	Set 76	true	Action type:
				Group setpoint
able Disable Delete Add				Group:
				mouseur = 1 Group = 16
				setpoint [wp: 76
				# Enabled
				Save Cancel

#### 3.8.7 Rules tab

It defines rules that unit will be automatically respond. These events are high / low currents or voltages, digital inputs, modulator and luminaires fault etc. If an event is to be an alarm, it must first be created in the alarm card. Some features are only available when using two way control.

Overview Modulators Groups	Luminaires Chargers Site Advance	d -			Configurat	ion RUN	N • Modulator 1 • 30.7.2018 12:47	Sta
ent definitions								
rigger type:	Action type:		Trigger type:	Action type:	Trigger type:		Action type:	
Digital input change	SSR setpoint		Modulator under-current	Manage alarm	Modulator over-current		Manage alarm	
igital Input:	SSR:		Modulator:	Alarm:	Modulator:		Alarm:	
#3	• 55R #1	*	Modulator #1	ALARMSLbc1	Modulator #1		ALARMSLac1	
etpoint:	Setpoint:		Reference value:	Authority:	Reference value:		Authority:	
True	• Off	•	-2	StreetLite	2		StreetLite	
Remove			Remove		Remove			
rigger type:	Action type:		Trigger type:	Action type:	Trigger type:		Action type:	
Digital input change	Manage alarm		Digital input change	Manage alarm	Lightpoint error		Manage alarm	
igital Input:	Alarm:		Digital Input:	Alarm:	Threshold:		Alarm:	
#2	ALARMSLpo		#1 *	ALARMSLdo	2		ALARMSLIe	
etpoint:	Authority:		Setpoint:	Authority:			Authority:	
False	* StreetLite		False	StreetLite			StreetLite	
			Remove		Remove			

#### 3.8.8 Alarms tab

It allows to create, edit or delete alarms. We assign name alarm, fault name, severity from 0 to 100, where 0 is the highest severity, set alarm confirmation, and archive events. Alarms can be activated or deactivated if needed. In case of alarm activation (yellow color), user can mark it as acknowledged (so that it is easy to tell old alarms being resolved from new ones).

J 🚽 🔍					
Overview Modulators Groups Luminaires Ch	hargers Site Advanced -			Cr.	infiguration RUN + Modulator 1 + 30.7.2018 12:47 State
system status: Disabled 🖌 Enable					
	Description	Severity	State	Timestamp	Authority
ASLac1	ALARMSLac1	50	INACT, ACK	2018-07-27 12:32:23.307	
ASLbc1	ALARMSLbc1	50	INACT, ACK	2018-07-27 12:32:23.308	
ASLdo 🗸 ACK	ALARMSLdo	50	ACT, UNACK	2018-07-27 12:32:23,477	StreetLite
/SLle	ALARMSLIe	50	INACT, ACK	2018-07-27 12:32:23.309	
ASLpo 🗸 ACK	ALARMSLpo	50	ACT.UNACK	2018-07-27 12:32:23:498	StreetLite

#### 3.8.9 Variables tab

It allows to set up variables at which the event changes (alarm ... )

• • •								
Overview Modulators Groups Luminaires Chargers	Site Advanced •				Configura	tion EDIT + Modulator 1 +	30.7.2018 13:46	State: OK
tou are now editing a working copy. O Save working copy	king copy							
fariable definitions								
Name Value Initial value	Persistent	Name:	VARO		*			
VARD		Value:		✓ Set				
		Initial value:	1					
		Persistent:	Persistent					
			Apply Revert		*			
Add variable Remove variable								

#### 3.8.10 Messaging tab

Another part of setting up alarms is setting up text messages. In "Email action" it is the possible to set up the recipient and the text of a specific alarm message. In "Alarm criteria" you can set up the conditions, when email is sent. For more detailed instructions on how to set up alarms and send messages, click on this <u>link.</u>

				Configura	ation RUN + Modulator 1 + 30.7.2018 12:48 Sta
arm-Email rules	natribed				
Following placeholders can be used	in email action subject and body: \$ALARM_NAME, \$ALARM_DES	CRIPTION, SALARM_SEVERITY, SALARM_S	TATE, SALARM_TIMESTAMP, SALARM_DATETIME, SALARM_AUTHORI	ITY.	
Varm critoria	E-Mail SMS Sender:	Alarm criteria	E-Mail action E-Mail SMS	Alarmational	E-Mail action E-Mol
ALARMSLbc1	falcon@seakenergetics.com	ALARMSLac1	falcon@seakenergetics.com	ALARMSLpo	falcon@seakenergetics.com
Name pattern:	Recipients:	Name pattern:	Recipients:	Name pattern:	Recipients:
	jozef.jure@seakenergetics.com		jozef.jure@seakenergetics.com		Jozef.jure@seakenergetics.com
From severity:	Subject:	From severity:	Subject:	From severity:	Subject:
50	alarm	50	alarm	50	alarm
o severity:	Body:	To severity:	Body:	To severity:	Body:
50	SALARM_NAME_SALARM_DESCRIPTION.	50	SALARM_NAME. SALARM_DESCRIPTION.	50	\$ALARM_NAME, \$ALARM_DESCRIPTION, \$ALARM_SEVERITY, \$ALARM_STATE.
State:		State:	Automation and an and a second at	State:	
•			•	•	
Remove		Remove		Remove	
Alarm criteria	E-Mail action	Alarm criteria	E-Mail action E-Mail SMS		
Name:	Sender:	Name:	Sender:		
ALARMSLdo •	falcon@seakenergetics.com	ALARMSLIe	falcon@seakenergetics.com		
Name pattern:	Recipients:	Name pattern:	Recipients:		
	jozef.jure@seakenergetics.com		jozef].jure@seakenergetics.com		
From severity:	Subject:	From severity:	Subject:		
50	alarm	50	test22		
To severity:	Body:	To severity:	Body:		
	SALARM_NAME, SALARM_DESCRIPTION.	50	xxx porucha svietidiel		
50	SALAMME SEVENITY SALAMME STATE		1.		
50 State:	SALARM_SEVENTY, SALARM_STATE,	State:			
50 State:	SALARM_SEVERITY, SALARM_STATE	State:	•		

#### 3.8.11 Maintenance

This tab allows to export all settings to file and in the case of recovery, upload these settings again from this file.

• • •	
	=
Verview Modulators Groups Luminaires Chargers Site Advanced -	Configuration RUN + Modulator 1 + 30.7.2018 13:50 State: OK
Backup & restore configuration	
(Ø Bachup	
Choose file   No file chosen	
Restore	