SEAK | LIGHTING CONTROL & ENERGY EFFICIENCY MANAGER

Description of the MODBUS (RTU) protocol for SEAK LUMiCHARGER RS485 v1.5

LUMiCHARGER RS485 registers

REGISTRY ADDRESS	TYPE	FUNCTION	NAME	REGISTRY COUNT	DESCRIPTION	FIRMWARE			
						X101.10.01.0	X101.10.02.0	X101.10.07.0	X101.10.15.0
0x0300	R/W	0x03, 0x06	Vehicle charging mode	0x0001	*LUMiCHARGER can operate in 3 different charging modes.*	●	●	●	●
0x0301	R/W	0x03, 0x06	Authorise / actual allowed charging current	0x0001	*Setting of actual allowed charging current allows charging of connected vehicle.*	●	●	●	●
0x0302	W	0x06	Disable LUMiCHARGER	0x0001	*Controller is able to disable LUMiCHARGER, so it is not possible to charger vehicle.*	●	●	●	●
0x0303	W	0x06	Refuse authorisation for connected vehicle	0x0001	*Controller is able to refuse authorisation if user has not allowed charging.*	●	●	●	●
0x0304	W	0x06	Current capacity exceeded / available	0x0001	*Controller is able to set that actual current capacity of power grid is exceeded and charging is not allowed at the moment.*	●	●	●	●
0x0305	W	0x06	Stop vehicle charging	0x0001	*Controller is able to stop vehicle charging if it is needed.*	●	●	●	●
0x0306	W	0x06	Unlock connector	0x0001	*Controller is able to unlock connector (socket) if regular unlocking failed.*	●	●	●	●
0x0307	W	0x06	RS485 - device address	0x0001	*Device adrress on RS485 bus.*	●	●	●	●
0x0308	W	0x06	Resume charging	0x0001	*Controller is able to resume charging only if LUMiCHARGER is in charging finished state.*	●	●	●	●
0x0309	W	0x06	Authorise (capacity exceeded state)	0x0001	*Controller is able to authorise user in current capacity exceeded state.*	●	●	●	●
0x030A	W	0x06	End charging session	0x0001	*Controller has to end charging session (set up LUMiCHARGER for new charging session)*			●	●
0x0320	R/W	0x03, 0x06, 0x10	Overall maximal current limit	0x0001	*Maximal allowed charging current which depends on superior circuit breaker.*	●	●	●	●
0x0321	R/W	0x03, 0x06, 0x10	RFID authorisation timeout	0x0001	*Time to process authorisation of user and allow or refuse charging.*	●	●	●	●
0x0322	R/W	0x03, 0x06, 0x10	Controller mode auto start	0x0001	*If enabled, LUMiCHARGER allows charging without communication with controller.*	●	●	●	●
0x0323	R/W	0x03, 0x06, 0x10	Current tolerance	0x0001	*Current tolerance of actual allowed charging current for overcurrent detection.*	●	●	●	●
0x0324	R/W	0x03, 0x06, 0x10	Delayed charging finished value	0x0001	*Time which LUMiCHARGER waits with enabled charging after charging finished by vehicle.*	●	●	●	●
0x0325	R/W	0x03, 0x06, 0x10	Cable capacity check (PP)	0x0001	*If enabled, LUMiCHARGER limits charging current according to connected cable's capacity.*	●	●	●	●
0x0326	R/W	0x03, 0x06, 0x10	RS485 - terminator	0x0001	*Terminator setting of device (RS485 communication).*	●	●	●	●
0x0327	R/W	0x03, 0x06, 0x10	RS485 - baudrate	0x0001	*Baudrate of RS485 communication.*	●	●	●	●
0x0328	R/W	0x03, 0x06, 0x10	RS485 - parity	0x0001	*Parity of RS485 comminication.*	●	●	●	●
0x0329	R/W	0x03, 0x06, 0x10	RS485 - stop bit	0x0001	*Number of stop bits of RS485 communication.*	●	●	●	●
0x0350	R/W	0x03, 0x06	Electric meter settings - pulse count	0x0001	*Pulse count per 1kWh for setting electric meter in LUMiCHARGER.*	●	●	●	●
0x0351	R/W	0x03, 0x06	Electric meter settings - period for averaging	0x0001	*Period for averaging to get actual consumption from external electric meter during charging.*	●	●	●	●
0x0400	R	0x03	Fimware - major version	0x0001	*Actual firmware version of device - major version*	●	●	●	●
0x0401	R	0x03	Fimware - minor version	0x0001	*Actual firmware version of device - minor version*	●	●	●	●
0x0402	R	0x03	Fimware - subversion	0x0001	*Actual firmware version of device - subversion*	●	●	●	●
0x0403	R	0x03	Fimware - configuration	0x0001	*Actual firmware version of device - configuration*	●	●	●	●
0x0404	R	0x03	Uptime counter - hi byte	0x0001	*Counter increasing every second by 1 (it starts from 0 each start of device) - hi byte*	●	●	●	●
0x0405	R	0x03	Uptime counter - lo byte	0x0001	*Counter increasing every second by 1 (it starts from 0 each start of device) - lo byte*	●	●	●	●
0x0406	R	0x03	Status of LUMiCHARGER	0x0001	*Actual status of LUMiCHARGER.*	●	●	●	●
0x0407	R	0x03	Actual measured current - Phase 1 - integer	0x0001	*Actual measured current from phase 1 - integer*	●	●	●	●
0x0408	R	0x03	Actual measured current - Phase 1 - fraction	0x0001	*Actual measured current from phase 1 - fraction*	●	●	●	●
0x0409	R	0x03	Actual measured current - Phase 2 - integer	0x0001	*Actual measured current from phase 2 - integer*	●	●	●	●
0x040A	R	0x03	Actual measured current - Phase 2 - fraction	0x0001	*Actual measured current from phase 2 - fraction*	●	●	●	●
0x040B	R	0x03	Actual measured current - Phase 3 - integer	0x0001	*Actual measured current from phase 3 - integer*	●	●	●	●
0x040C	R	0x03	Actual measured current - Phase 3 - fraction	0x0001	*Actual measured current from phase 3 - fraction*	●	●	●	●
0x040D	R	0x03	Total current of charging - Phase 1 - integer	0x0001	*Total current of charging from phase 1 - integer*	●	●	●	●
0x040E	R	0x03	Total current of charging - Phase 1 - fraction	0x0001	*Total current of charging from phase 1 - fraction*	●	●	●	●
0x040F	R	0x03	Total current of charging - Phase 2 - integer	0x0001	*Total current of charging from phase 2 - integer*	●	●	●	●
0x0410	R	0x03	Total current of charging - Phase 2 - fraction	0x0001	*Total current of charging from phase 2 - fraction*	●	●	●	●
0x0411	R	0x03	Total current of charging - Phase 3 - integer	0x0001	*Total current of charging from phase 3 - integer*	●	●	●	●
0x0412	R	0x03	Total current of charging - Phase 3 - fraction	0x0001	*Total current of charging from phase 3 - fraction*	●	●	●	●
0x0413	R	0x03	Total consumption of charging - integer	0x0001	*Total consuption of charging measured from external electic meter connected to LUMiCHARGER.*	●	●	●	●
0x0414	R	0x03	Total consumption of charging - fraction	0x0001	*Total consuption of charging measured from external electic meter connected to LUMiCHARGER.*	●	●	●	●
0x0415	R	0x03	Actual input power of charging	0x0001	*Actual input power from external electric meter connected to LUMICHARGER.*	●	●	●	●
0x0416	R	0x03	RFID for authorisation - byte 1	0x0001	*RFID of the user that need to be authorised - byte 1*	●	●	●	●
0x0417	R	0x03	RFID for authorisation - byte 2	0x0001	*RFID of the user that need to be authorised - byte 2*	●	●	●	●
0x0418	R	0x03	RFID for authorisation - byte 3	0x0001	*RFID of the user that need to be authorised - byte 3*	●	●	●	●
0x0419	R	0x03	RFID for authorisation - byte 4	0x0001	*RFID of the user that need to be authorised - byte 4*	●	●	●	●
0x041A	R	0x03	RFID for authorisation - byte 5	0x0001	*RFID of the user that need to be authorised - byte 5*				●
0x041B	R	0x03	RFID for authorisation - byte 6	0x0001	*RFID of the user that need to be authorised - byte 6*				●
0x041C	R	0x03	RFID for authorisation - byte 7	0x0001	*RFID of the user that need to be authorised - byte 7*				●
0x041D	R	0x03	RFID for authorisation - byte 8	0x0001	*RFID of the user that need to be authorised - byte 8*				●
0x0450	W	0x06, 0x10	Set display language	0x0001	*Set display language*		●	●	●

Advanced description

Vehicle charging mode				
Name	**Value**			**Description**
Registry address	*0x0300*			*Vehicle charging mode*
Registry count	*0x0001*			
Data	*1*	*Hi*	*Charging mode*	*0 - controller mode* *1 - stand-alone mode* *2 - authorisation controller mode*
		Lo		

It is possible to set requested charging mode:
Charging mode 0 (controller mode) - it is not possible to charge vehicle after it's connection to charger, but controller gets information after vehicle connection and than it allows charging.
Charging mode 1 (stand-alone mode) - it is possible to charge vehicle after it's connection to charger. Setting register overall maximal current limit (0x0320) it is possible to set allowed charging current after vehicle connection (Set actual charging current (0x0301) is disabled).
Charging mode 2 (authorisation controller mode) - it is not possible to charge vehicle after it's connection to charger, at first user has to authorise and than controller allows charging.

Authorise / actual allowed charging current				
Name	**Value**			**Description**
Registry address	*0x0301*			*Authorise / actual allowed charging current*
Registry count	*0x0001*			
Data	*1*	*Hi*	*Current*	*6 - 80 A*
		Lo		

It is possible to set actual charging current only during Ready to charge or Charging status of the LUMiCHARGER.
Setting of actual charging current is also used as authorisation of user in Authorisation controller mode.
Actual charging current has to be lower than overall maximal current limit.

Disable LUMiCHARGER				
Name	**Value**			**Description**
Registry address	*0x0302*			*Disable LUMiCHARGER*
Registry count	*0x0001*			
Data	*1*	*Hi*	*Data*	*0*
		Lo		

It si possible to disable charging if it is needed. For enabling charging set vehicle charging mode.

Refuse authorisation for connected vehicle				
Name	**Value**			**Description**
Registry address	*0x0303*			*Refuse authorisation for connected vehicle*
Registry count	*0x0001*			
Data	*1*	*Hi*	*Data*	*0*
		Lo		

If controller checks user's RFID and user has not allowed charging, controller has to refuse charging.

Current capacity exceeded / available				
Name	**Value**			**Description**
Registry address	*0x0304*			*Current capacity exceeded / available*
Registry count	*0x0001*			
Data	*1*	*Hi*	*Data*	*1 - exceeded* *2 - available*
		Lo		

If controller finds out that actual current capacity of power grid is exceeded, it is necessary to set in LUMiCHARGER that it is not allowed vehicle charging.
After releasing current capacity of power grid, controller has to set in LUMiCHARGER that is available current capacity for vehicle charging.

Advanced description

Stop vehicle charging				
Name	**Value**			**Description**
Registry address	*0x0305*			*Stop vehicle charging*
Registry count	*0x0001*			
Data	*1*	*Hi* *Lo*	*Data*	*0*

During charging, controller is able to stop charching (e.g. paid time left or some emergency reason).

Unlock connector				
Name	**Value**			**Description**
Registry address	*0x0306*			*Unlock connector*
Registry count	*0x0001*			
Data	*1*	*Hi* *Lo*	*Data*	*0*

If automatic unlocking failed, controller is able to unlock connector remotly.

RS485 - device address				
Name	**Value**			**Description**
Registry address	*0x0307*			*RS485 - device address*
Registry count	*0x0001*			
Data	*1*	*Hi* *Lo*	*Data*	*1 - 247*

New address settings will take effect after power supply RESET.

Resume charging				
Name	**Value**			**Description**
Registry address	*0x0308*			*Resume charging*
Registry count	*0x0001*			
Data	*1*	*Hi* *Lo*	*Current*	*6 - 80 A*

If LUMiCHAGER is in Charging finished (0x0C) state it is able to resume charging.

End charging session				
Name	**Value**			**Description**
Registry address	*0x030A*			*End charging session*
Registry count	*0x0001*			
Data	*1*	*Hi* *Lo*	*Data*	*0*

Controller has to end charging session (it is not possible to start charging of new vehicle without ending old charging session).
It is possible to end charging session only if LUMiCHARGER is in 0x12 - Finishing charging, Charging interrupted and Charging finished state.

Advanced description

Authorise (capacity exceeded state)				
Name	**Value**			**Description**
Registry address	***0x0309***			
Registry count	***0x0001***			*Authorise (capacity exceeded state)*
Data	***1***	***Hi***	***Data***	*0*
		Lo		

If LUMiCHARGER is in Current capacity exceeded state, it is possible to authorise user.

Overall maximal current limit				
Name	**Value**			**Description**
Registry address	***0x0320***			*Overall maximal current limit*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Current***	*6 - 80 A*
		Lo		

Set value depends on value of superior circuit breaker.
Overall maximal current is also allowed charging current in Stand-alone mode.

RFID authorisation timeout				
Name	**Value**			**Description**
Registry address	***0x0321***			*RFID authorisation timeout*
Registry count	***0x0001***			
Data	***1***	***Hi***	***RFID authorisation timeout***	*10 - 255 s*
		Lo		

RFID timeout determines maximal time for authorisation of user to star charging.

Controller mode auto start				
Name	**Value**			**Description**
Registry address	***0x0322***			*Controller mode auto start*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - disabled* *1 - enabled*
		Lo		

Auto start means that LUMiCHARGER allows charging after vehicle connection (no communication with controller is needed). Initial charging current is 6A.
Auto start is possible to set only for controller mode.

Current tolerance				
Name	**Value**			**Description**
Registry address	***0x0323***			*Current tolerance*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Current tolerance***	*10 - 30 (1,0 - 3,0 A)*
		Lo		

Current tolerance of actual allowed charging current for overcurrent detection.

Advanced description

Delayed charging finished value				
Name	**Value**			**Description**
Registry address	***0x0324***			*Delayed charging finished value*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Delay***	*0 - 60 s*
		Lo		

Delayed value determines time which LUMiCHARGER waits with allowed PWM value for charging after finished charging from vehicle.

Cable capacity check (PP)				
Name	**Value**			**Description**
Registry address	***0x0325***			*Cable capacity check*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - disable* *1 - enable*
		Lo		

If is cable capacity check enabled, LUMiCHARGER limits charging current according to connected cable's capacity.

RS485 - terminator				
Name	**Value**			**Description**
Registry address	***0x0326***			*RS485 - terminator*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - disable* *1 - enable*
		Lo		

If is RS485 - terminator enabled, terminating resistor is connected to RS485 bus.

RS485 - baudrate				
Name	**Value**			**Description**
Registry address	***0x0327***			*RS485 - baudrate*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - 1200* *1 - 1800* *2 - 2400* *3 - 4800* *4 - 9600* *5 - 115200* *6 - 250000*
		Lo		

RS485 - parity				
Name	**Value**			**Description**
Registry address	***0x0328***			*RS485 - parity*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - None* *1 - Even* *2 - Odd*
		Lo		

Advanced description

RS485 - stop bits				
Name	**Value**			**Description**
Registry address	***0x0329***			*RS485 - stop bits*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Value***	*0 - One stop bit* *1 - Two stop bits*
		Lo		

Set electric meter settings - pulse count				
Name	**Value**			**Description**
Registry address	***0x0350***			*Set electric meter settings - pulse count*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Pulse count per 1 kWh***	*10 - 65535*
		Lo		

Setting of eletric meter in LUMiCHARGER - pusle count per 1 kWh.

Set electric meter settings - period for averaging				
Name	**Value**			**Description**
Registry address	***0x0351***			*Set electric meter settings - period for averaging*
Registry count	***0x0001***			
Data	***1***	***Hi***	***Period for averaging***	*1 - 600 s*
		Lo		

Setting of eletric meter in LUMiCHARGER - period for averaging.
With connected electric meter to LUMiCHARGER it is possible to get actual power consumption with set period of time for averaging.

Advanced description

Firmware		
Name	**Value**	**Description**
Registry address	*0x0400*	*Firmware*
Registry count	*0x0002*	

Actual firmware version of device.

Response				
Name	**Value**			**Description**
Data	*1*	*Hi*	*Major version*	*Firmware version*
		Lo		
	2	*Hi*	*Minor version*	
		Lo		
	3	*Hi*	*Subversion*	
		Lo		
	4	*Hi*	*Configuration*	
		Lo		

Uptime counter		
Name	**Value**	**Description**
Registry address	*0x0404*	*Uptime counter*
Registry count	*0x0002*	

Uptime counter is 32bit counter, which is equal to zero at device power-on and increment every second by 1.

Response				
Name	**Value**			**Description**
Data	*1*	*Hi*	*Counter - Hi*	*Uptime counter (in seconds)*
		Lo		
	2	*Hi*	*Counter - Lo*	
		Lo		

Status of LUMiCHARGER		
Name	**Value**	**Description**
Registry address	*0x0406*	*Request stored status of LUMiCHARGER*
Registry count	*0x0001*	

See table below to get description of status from the LUMiCHARGER.

Response				
Name	**Value**			**Description**
Data	*1*	*Hi*	*Lumicharger status*	*see table of lumicharger statuses*
		Lo		

LUMiCHARGER status

STATE CODE	STATE	DESCRIPTION
0	No vehicle connected	*No vehicle connected to LUMiCHARGER.*
1	Authorisation in progress	*Waiting for the user authorisation.*
2	Ready to charge	*Vehicle connected to LUMiCHARGER. Waiting for start of charging. It is possible to set actual charging current (0x0301).*
3	Charging	*Charging in progress. It is possible to set actual charging current (0x0301).*
4	Charging disabled	*Charging is disabled from control system. It is possible to enable charging by sending control instruction (0x0300).*
5	ERROR - Overcurrent	*Measured current during charging was higher than allowed actual maximal curent. Send control instruction for enabling chargin (0x0300) to return from this status.*
6	ALERT - leakage current detected	*Leakage current was detected. In stand-alone mode LUMiCHARGER will try to turn on charging 3 times in 1 minute interval. After 10 minutes is turning on repeated one more time. In controller modes LUMiCHARGER will try to turn on charging only 1 time after 1 min. It is temporary status.*
7	ERROR - leakage current detected	*Permanent status after status: ALERT - leakage current detected (0x06).*
8	ERROR - RFID power failure	*Power supply failure of RFID reader.*
9	ERROR - RFID case breached	*Case of RFID reader was opened or damaged.*
10	ERROR - RFID autorisation failed	*RFID sent to controller was denied or there was a timeout in communication.*
11	Vehicle connected	*Vehicle connected to LUMiCHARGER. It is not allowed to charge vehicle, authorisation from controller is required.*
12	Charging finished	*Charging of vehicle was finished or was stopped by user.*
13	User logged out	*User is logged out, cabled is unlocked and user is able to unplug his cable.*
14	Current capacity exceeded	*There is no available current capacity for charging. It is possible to connect vehicle to charger and authorize it. Charging will start after releasing minimal current capacity for charging (from FW X101.10.07 not used - it is replaced by current capacity exceeded status bit in new status byte)*
15	ERROR - CP short ciruit	*Detected short circuit on CP signal.*
16	Charging interrupted	*Charging of vehicle was stopped by controller.*
17	Finishing charging	*Vehicle was disconnected from LUMiCHARGER, charging session is still in progress. It is necessary to get consumption of charging session and End charging session (0x030A). In finishing charging status, it is not possible to start new charging session for new vehicle.*
18	ERROR - RFID autorisation refused	*RFID sent to controller was denied. Charging for this RFID is not allowed.*

LUMiCHARGER STATUS BYTE (from FW X101.10.07)

Bit	7	6	5	4	3	2	1	0
Value	Active charging session	Current capacity exceeded	Vehicle connected	LUMiCHARGER status <4:0>				

LUMiCHARGER STATUS BYTE (previous)

Bit	7	6	5	4	3	2	1	0
Value	LUMiCHARGER status <7:0>							

Advanced description

Actual measured current values		
Name	**Value**	**Description**
Registry address	***0x0407***	*Actual measured current values*
Registry count	***0x0006***	*Measured current from all 3 phases*

LUMiCHARGER measures actual current only during charging.

Response				
Name	**Value**			**Description**
Data	***1***	***Hi***	***Phase 1 current - integer***	*0 - 80 A*
		Lo		
	2	***Hi***	***Phase 1 current - fraction***	*0 - 9*
		Lo		
	3	***Hi***	***Phase 2 current - integer***	*0 - 80 A*
		Lo		
	4	***Hi***	***Phase 2 current - fraction***	*0 - 9*
		Lo		
	5	***Hi***	***Phase 3 current - integer***	*0 - 80 A*
		Lo		
	6	***Hi***	***Phase 3 current - fraction***	*0 - 9*
		Lo		

Total current of charging		
Name	**Value**	**Description**
Registry address	***0x040D***	*Total current of charging*
Registry count	***0x0006***	*Total current from all 3 phases*

Total current of charging from all 3 phases of LUMiCHARGER.
LUMiCHARGER measures total current only during charging.

Response				
Name	**Value**			**Description**
Data	***1***	***Hi***	***Phase 1 total current - integer***	*0 - 65535 Ah*
		Lo		
	2	***Hi***	***Phase 1 total current - fraction***	*0 - 9*
		Lo		
	3	***Hi***	***Phase 2 total current - integer***	*0 - 65535 Ah*
		Lo		
	4	***Hi***	***Phase 2 total current - fraction***	*0 - 9*
		Lo		
	5	***Hi***	***Phase 3 total current - integer***	*0 - 65535 Ah*
		Lo		
	6	***Hi***	***Phase 3 total current - fraction***	*0 - 9*
		Lo		

Total consumption of charging		
Name	**Value**	**Description**
Registry address	***0x0413***	*Total consumption of charging*
Registry count	***0x0002***	*Total charging consumption*

Total consumption of charging for all phases together.
LUMiCHARGER measures consuption only during charging and electric meter has to be connected to it.

Response				
Name	**Value**			**Description**
Data	***1***	***Hi***	***Total charging consumption - integer***	*0 - 65535 kWh*
		Lo		
	2	***Hi***	***Total charging consumption - fraction***	*0 - 9*
		Lo		

Actual input power of charging		
Name	**Value**	**Description**
Registry address	***0x0415***	*Request actual input power of charging*
Registry count	***0x0001***	*Actual input power*

Actual input power of charging for all phases together.

LUMiCHARGER measures actual input power only during charging and electric meter has to be connected to it.

Response				
Name	**Value**			**Description**
Data	***1***	***Hi***	***Actual input power***	*0 - 65535 W*
		Lo		

Advanced description

RFID for authorisation		
Name	**Value**	**Description**
Registry address	***0x0416***	*RFID for authorisation*
Registry count	***0x0008***	*RFID ID*

RFID of the user that need to be authorised.

Response				
Name	**Value**			**Description**
Data	***1***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***2***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***3***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***4***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***5***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***6***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***7***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*
Data	***8***	***Hi*** / ***Lo***	***Data***	*RFID ID byte*

Set display language				
Name	**Value**			**Description**
Registry address	***0x0450***			*Set display language*
Registry count	***0x0001***			
Data	***1***	***Hi*** / ***Lo***	***Display language***	*0 - Slovak* *1 - English*

Use this register to change display language.

Device state and type

State and type of device		
Name	**Value**	**Description**
Address	*Address*	
Function	*0x03*	
Registry address	*0x0064*	*State and type of device*
Registry count	*0x0001*	
Crc	*Value*	

Response				
Name	**Value**			**Description**
Address	*Address*			
Function	*0x03*			
Byte count	*0x02*			
Data	*1*	*Hi*	*Device type*	*See Table of device types*
		Lo	*State of device*	*See Table of device states*
Crc	*Value*			

Actual state of device and device type.
Use this register for searching SEAK devices on RS485 bus.

Table of device states

STATE CODE	STATE	DESCRIPTION
0x01	OK	*Device is ready.*
0x07	Other error	*Other specified problem.*

Table of device types

STATE CODE	STATE
0x00	3 - phase modulator PANTER PNT340 or PNT360
0x80	1 - phase modulator LUMiBOX SLM
0xFF	LUMiCHARGER RS485