BKE MONITORING SYSTEM

Monitoring (IP) module, allows simple and transparent monitoring of the power supply parameters. Power supplies can be integrated into a higher units using SNMP, supervised individually via integrated web interface and can provide reports on the exceedances of monitored parameters by sending e-mail messages. Boundary values of the parameters can be customized and module can warn the operator when the event occurs. Monitoring module is not compatible with PoE (Power over Ethernet).

Connection options for remote monitoring

Web interface
The monitoring module of the power supply can be accessed from a web browser by entering the IP address of the device. The default IP address of the module is **192.168.1.157**. The default address can be changed by the user via web browser, see chapter *Network settings*. **Default username: „*system*", no password.**

For the device detection is possible to use the **Etool** utility. The utility can be downloaded at *http://www.solarmonitor.cz/en/support/download/utilities*.

SNMP protocol
Remote monitoring module enables the integration into superior system using SNMP version 1 (SNMPv1). Configuration MIB table describing the structure of the data can be downloaded from the www.bke.cz on the product card.

MODBUS protocol
The data transfer is accessible via MODBUS protokol via TCP/IP (see data table below)

Email alarm
The alarms are generated according to the data set in the *Monitor Configuration* menu. The alarms are reported not only via SNMP, but also can be sent to up to three recipients of the email. Configuration of the email server and the settings of the recipients email address is availaible in the *Network Settings* menu.

Any setting changes are necessary to save by selecting **Save Settings** button.

Remote monitoring module is possible to restart without power failure by selecting **Restart Monitoring**.

In the following chapters are listed parameters that can be monitored. Items marked with (-) are not active in the power supply.

SWITCHING POWER SUPPLIES

Monitor

| IP: | 192.168.1.157 | **JSD-119-275** | **MONITOR** |
| Version: | 1.1.10 Build 16 | | |

Monitor

System Settings

Network Settings

Monitor Configuration

Restart Monitoring

Refresh each 5 s

INPUT

| | Grid: | Ok |
| | Fuse: | Ok |

POWER SOURCE

| | State | Ok |
| | Current [A]: | 0.0 |

OUTPUT

| | Fuse: | Ok |
| | State | Ok |

BATTERY

	Voltage	[V]:	27.1
	Charge Current	[A]:	-0.2
	Temperature	[°C]:	29.1
	Fuse		Ok

DATE AND TIME

Time service is not available

ACTIVE ALARMS => REPORTS

No alarm

Item	Description	(+ used, - unused)		
		JSD-119	JSD-300	JSD-600
Input				
- Grid	State of the input voltage.	+	+	+
- Fuse	State of the fuse.	-	-	+ **
Power source				
- State	State of the power supply.	+	+	+
- Current	Output current value.	-	+	+
Output				
- State	**State of the power supply output relay.**	+	+	+
- Fuse	State of the output fuse.	-	-	+
Date and time	**Current date and time (obtain from timeserver).**	+	+	+
Active alarms, reports	**Shows active alarms and reports.**	+	+	+
Battery				
- Voltage	Battery voltage.	+	+	+
- Charge current	Battery current (negative value means discharging).	+	+	+
- Temperature	Battery temperature.	+	*	*
- Fuse	State of the battery fuse.	-	-	+

* Battery temperature is not visible in _TK version in Remote monitoring. Temperature sensor is used for compensation of battery voltage in this version.

** On/off of external alarms are done by **DIP switch** (behind connector). **Deactivation set to position ON.**

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Network settings

Item	Description	(+ used, - unused)		
		JSD-119	JSD-300	JSD-600
Network settings	Setting of connected network.	+	+	+
SNMP	SNMP controlling system.	+	+	+
- General	Port for SNMP communication.	+	+	+
- MIB II systém group	SysContact – Contact for SNMP monitoring. SysName – Name of the unit for SNMP. SysLocation – Location of the unit.	+	+	+
- Access	Community Write/Read – Access rights for SNMP monitoring.	+	+	+
- Recipients	IP address and port for sending SNMP traps.	+	+	+
HTTP		+	+	+
- Port	Port for web management.	+	+	+
- User, setup	Default username: system, no password. Please change this at first.	+	+	+
Email		+	+	+
- General	Email server settings.	+	+	+
Recipients	List of recipients.	+	+	+
Internet time	Time server address.	+	+	+

Monitoring configuration

Alarm value – thresholds for the alarm messages initiation. Threshold level must be reached for at least 2sec. Alarm messages are generated with hysteresis. Alarms are generated when the value reach the threshold level. Current alarm is deactivated, when the current value drops 0,5A below the threshold level. Alarm of the voltage is deactivated when the voltage drops 15% below threshold level. Alarm of the temperature is deactivated, when the temperature drops 1°C below threshold level.

Item	Description	(+ used, - unused)		
		JSD-119	JSD-300	JSD-600
Power Source Current	Power supply output current.	-	+	+
Battery Voltage	Battery voltage.	+	+	+
Battery Current	Input or output battery current.	+	+	+
Battery Temperature	Battery temperature.	+	*	*
Grid State	State of the input voltage.	+	+	+
Grid Fuse	State of the input fuse.	-	-	+
Battery Fuse	State of the battery fuse.	-	-	+
Output Fuse	State of the output fuse.	-	-	+
Output State	State of the power supply output relay.	+	+	+
Disconnect Output *(Restart of the load)*	Disconnection of the output relay. Output is automaticly connected after 10seconds.	+	+	+

* Battery temperature is not visible in _TK version in Remote monitoring. Temperature sensor is used for compensation of battery voltage in this version.

MODBUS protocol

SNMP protocol allows access to following groups: grid, power source, accumulator, output and the data table alarms. In the table below are the binary quantities placed starting from adress 20000, analog from 40000. The groups are graded by 10 (grid = 10, powersource = 20, accumulator = 30, output = 40).
The format of the variables is xxxx.x, so the multiplier is 0,1.

Group	SNMP variable	Type	MODBUS adress
Binary			
grid	gridState	binární	20010
grid	gridFuse	binární	20011
powerSource	powerSourceState	binární	20020
accumulator	accuFuse	binární	20030
output	outFuse	binární	20040
output	outState	binární	20041
16 bitové			

New - state
 	
0 – Run on grid
      (1= OK, 0=chyba)
 	
1 – Run on battery
 	
2 - OFF
	If (PowerSourceState==0 && outState==1)
	
	If (PowerSourceState==1 && outState==1)
	
	if(outState==0)
			40000

New – all bit alarms 0 - Input grid failure 1 - Input fuse failure 2 - Power source failure 3 - Power source current out of range 4 - Battery voltage out of range 5 - Battery charge current out of range 6 - Battery temperature out of range 7 - Battery fuse failure 8 - Output fuse failure 9 - Output state disconnected 10 - 15-			40001

powerSource	powerSourceCurrent	analog	40020
accumulator	accuVoltage	analog	40030
accumulator	accuCurrent	analog	40031
accumulator	accuTemperature	analog	40032
Alarmy			
alarms	alarmDescription[0]	enum {1,...,10}	40100
alarms	valueType[0]	bin. / anal.	40101
alarms	value[0]	analog	40102
alarms	alarmTimeStamp[0]	time	40103
alarms	alarmDescription		40104 (40200)
alarms	valueType[1]		40105 (40201)
alarms	value[1]		40106 (40202)
alarms	alarmTimeStamp[1]		40107 (40203)
alarms	...		40108 (40300)

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