
BLACKBOX

Power Quality Analysis
at your fingertips



Release Notes

for

BLACKBOX Firmware Version: 0.4.00.16

Boot Loader Version: 0.3.02

DSP Version: 1.4





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System requirements

- IE 7 or higher

New Features

- **Class A extended** support per latest 61000-4-30 revision. Many new parameters, averaged intervals, and more
- **Device Configuration FILE** – Based on XML file. Under device CF. Enables user to manage configuration via files (BACKUP, MODIFY).
- **MODBUS-RTU, MODBUS-TCP and DNP3:**
 - Added individual harmonics & inter-harmonics
 - Support for faster and multi-parameters read in single request
- **PQZIP Enhancements** (User must change Record type in PQZIP Recording to PQSCADA 3.3):
 - Hierarchal folders: Folder for each year, month, day and hour. Now it is easier for manual downloading of files per desired time period.
 - Entire IO module ports recording: while in previous version only Digital inputs were recorded in PQZIP; now also Digital output, Relays, Analog Inputs, and Outputs.
 - VDC in PQZIP (G4500) is also supported.
 - For advanced users: There is a capability to modify sampling of G4430/G4500 and obtain in PQZIP either V=512, I=512 Samples/cyc (default is of course V=1024,I=256)
- **Customized User parameters:**
 - The user can add his/her own parameters to PQZIP (up to 32 different parameters).
 - Usage: The user writes values via MODBUS registers and these registers are being continuously recorded as part of PQZIP and viewable in the PQS/INV in parallel to the power parameters for easier investigation.
- **WEB interface enhancements and improvements**
 - Many new parameters and new features in monitoring section. Custom Compliance Configuration – New fields and configuration extensions
 - User Events: Fixes and enhancements in the parameters selection.

- **Advanced Supervision Reset** for External Modem/Router; an advanced user feature, (configurable via Telnet only). This feature enables the device to RESET (turn power OFF/ON) an external modem/router in case it detects no-connectivity. This feature prevents remote communication stack in case the modem software is stacked. The reset function is configurable to pulse supply voltage either via POE (LCD ETH PORT), or DO/RELAY ports of MULTI-IO Extension card.
- **POE powering new HW module** [POE to 5V/12V Supply box] that can operate external modems requiring 5 or 12V.
- **Compliance extensions:**
 - Compliance is now always running.
 - Compliance Customized Configuration is now supported for Events Hysteresis, as well as configurable discard or no-discarding of intervals during flagging.

Known issues

- In some cases, the configuration indication will fail even though part of the configurations pass.
- Using the OPC as a gateway gives "bad device failure" message between parameters update
- When disabling THD detection by entering 0 value for threshold, THD indication will be zero
- When erasing PQZIP files directly from the web interface, erasing message can remain a longer time than expected
- Downgrading version is prohibited and blocked by the firmware. Trying to do so will display Error code = 0
- When setting PQZIP mode to a fixed ratio higher than 4,000MB, an Error Code -987 is displayed
- Embedded reports works only with CREG compliance
- LAN 2 used for LCD only

Downloading

- Link at:
http://www.elspec.biz/firmware/G4K/G4k_0_4_00_16_BD00.bin

Upgrading the Firmware

The BLACKBOX's internal software (firmware) can be upgraded on demand using the **Configuration** → **Firmware Upgrade** page.

For an easy to follow Video Tutorial on upgrading the firmware:



[Upgrading the Firmware](#)

To upgrade the Firmware:

ELSPEC G4430 BLACKBOX		Demo Unit		
MONITORING	ENERGY	POWER QUALITY	CONFIGURATION	logout
RW ■ CONFIGURATION » FIRMWARE UPGRADE				
Apply changes	Refresh data	Upgrade FW	Active bank: B	
FTP firmware upgrade		Banks		
FTP server	212.143.246.204	Bank A version	0.3.62.14	
FTP username	ELSPEC	Bank B version	0.3.62.14	
FTP password	elspecelspec			
Firmware filename	G4k.bin			
Local image firmware upload				
<input type="text"/>				Browse...
Upload local firmware image				

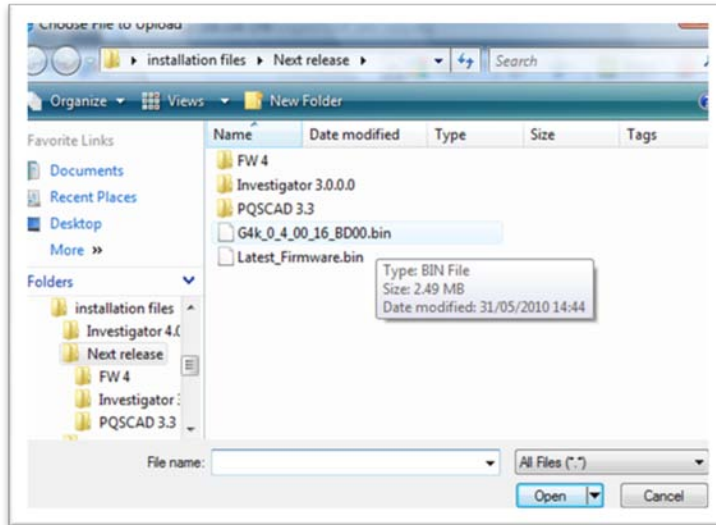
HTTP Upgrade

Probably, the simplest way of upgrading your instrument is by using the HTTP Upgrade functionality.

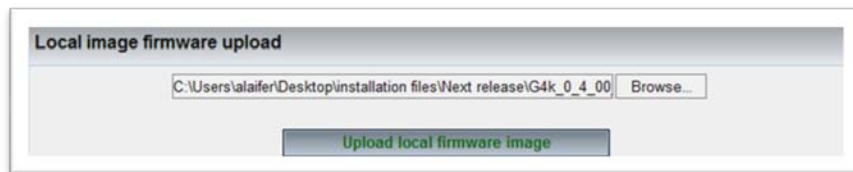
Local image firmware upload	
<input type="text"/>	Browse...
Upload local firmware image	

This can be initiated by using the **Local Image Firmware Upload** section.

1. Press the **Browse** button and select the image file of the firmware you've downloaded on your local computer.



2. Click **Open**.



3. Click the **Upload local firmware image** button to initiate an actual upgrade process.



It is recommended to use “simple” folders such as “c:\Temp” for local firmware upgrades. Keep the path shorter than 30 characters.

Folders which require a special security, such as “My Documents” or “Desktop” may not operate correctly with HTTP upload.

Troubleshooting

Problem	Description	Solution
Red led constant on	PQZip is inactive.	Active the PQZip
	Flash parameter corrupted	Restart the unit.
	DSP module communication failure	<ul style="list-style-type: none"> Unplug the unit and wait for power down Power up the unit again.
	Initialization error – DSP communication, PQZip or the event module failed on initialization	<ul style="list-style-type: none"> Unplug the unit and wait for power down Power up the unit again.
	EG4100 LCD failed to initialize	<ul style="list-style-type: none"> Unplug the unit and wait for power down Power up the unit again.
Red led blinks	Warning: Connection problem with the EG4100	Restart the unit
	Warning: Logger corrupted	<ul style="list-style-type: none"> Erase Log Restart the unit
Green led blinks and does not stop after a minute	Application stuck in initialization phase.	Contact support
Unable to access web interface	Browser may be incorrectly configured for direct or remote access to the network.	If the problem continues, see solutions for Unable to communicate.

Problem	Description	Solution
Unable to communicate with the unit	The unit is not responding to network communication.	<ul style="list-style-type: none"> • Run ElspecSearch for trying to locate the unit. See if the network configuration is correct • Open shell window (Start→Run→ cmd) and Run→ping <Unit IP>. • Restart the unit. • Unplug the network cable and attach to the back of the unit
OPC: Group items return error while reading from the unit	Possible incorrect parameters	Check if all the parameters in the group are valid in the current power configuration.
ModBus Communication over serial RS485fails	Connection problem	Check serial connection <ul style="list-style-type: none"> • Wiring • Bit rate • ModBus address-Check client configuration • Each parameter returns a 32bit floating value. • The parameter ids are incremented by one.
GPS Module is connected but NO Time SYNC status	Verification	Check time synchronization source: <ul style="list-style-type: none"> • Should be on GPS or Auto. GPS page: <ul style="list-style-type: none"> • Check the information there is valid. • If nothing displayed, check the power source of the gps and the wiring. Verify PPS/IRIG Signal state and check connection to IRIG pin