Vanguard® FTS 370x Diagnostics

FLASH
TECHNOLOGY

Objectives

Objectives:

- ✓ **WebGUI (Graphical User Interface) Overview**

- ✓ **System Configuration Diagnostics**

- ✓ **Alarm Review**

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WebGUI (Graphical User Interface) Overview

Vanguard Medium FTS 370x WebGUI Interface

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Site Name: Not Set

Site ID: Not Set

Product Manual

For Support: 1-800-821-5825

Tower Lighting Status

Description	Value
Controller	FTS 370d
Tower Lighting Type	Dual
Total Beacons	1
Total Marker Tiers	1
Total Alarms	0

Lighting Inspection

Lighting Inspection Type: Auto Fast Lighting Inspection

**Lighting Inspection Stage:
Completed 0 hour(s) ago**

Auto Fast LI	1 Button inspection. BCNs/MKRs tested in parallel with no user interaction
Manual Fast LI	BCNs/MKRs tested in parallel but holds restore stages for user input
Manual Staged LI	BCNs/MKRs tested in each mode singly & sequentially holds restore stages for user input
Manual LI	BCNs/MKRs tested one at a time based on user selection. Maximum timeout for each test is 30 minutes
Results Page	View the Lighting Inspection progress and results page

Force Mode Override

Description	State
Current Override Mode	Auto
Select the 30 minute override mode:	

White Day	White Night
Red Night	Cancel

Beacon 1 V3.1

Description	State
Beacon Communication Alarm (BCN COMM)	OK
Red Night Alarm (RNIGHT ALARM)	OK
White Day Alarm (DAY ALARM)	OK
White Night Alarm (WNIGHT ALARM)	OK
AOL Beacon	Yes
Life Runtime (days)	8
Beacon Core Temperature	30.7 °C / 87.3 °F

Marker Tier 1 V2.9

Description	State
Marker Tier Communication Alarm (MKR COMM)	OK
Marker Alarm (MKR ALARM)	OK
Life Runtime (days)	7
Markers in Tier	1
Marker Output 1	OK
Marker Box Temperature	25.7 °C / 78.2 °F

Controller 1 V3.3

Description	State
System Communication Alarm (SYS COMM)	OK
Lighting Inspection Test Mode (LI TEST MODE)	Off
Site Mode Override	Off
Photodiode Alarm (PD ALARM)	OK
System GPS Sync Alarm (GPS ALARM)	OK
Tower Lighting Configuration Alarm (CFG ALARM)	OK
System Power Failure Alarm (POWER FAIL)	OK
Low Tower Lighting DC Voltage Alarm (LOW DC)	OK
Tower Lighting Sync Alarm (TWR SYNC)	OK
PLC Bindings Alarm (BIND ALARM)	OK
Tower Lighting Operating Mode	Red Night
Photodiode Mode	Night
Life Runtime (days)	2
Controller Box Temperature	40.6 °C / 105.1 °F
Tower DC Voltage	58.4 V
Bind State	Beacon, Marker

Modem Status

Description	State
Cellular IP Address	10.102.0.251
Modem Type	HSPA
Signal Strength (Bars)	4
Signal Strength (Decibels)	84 dB
Cellular Service Type	EGPRS
IMEI Number	351579054541121
SIM Card Type	AT&T Direct
Roaming Status	Not Roaming
Cell Number	16159759326

Event History

Event Log

Vanguard System Diagnostics

Diagnostics

Configuration

Configuration

Home Page - Equipment

Home Page:

- Gives option to enter desired site name and ID

  - Identify the exact site under discussion when accessing multiple sites at once.

- Product Manual Link (No internet required)

- Flash Technology support phone number

Tower Lighting Status:

- Exact lighting equipment on tower

- Number of Beacons and Marker Tiers

- Total Alarms (**active**)

Home Page – Lighting Inspection Overview

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Lighting Inspection

Lighting Inspection Type: Inactive	
Lighting Inspection Stage: No Record	
Auto Fast LI	1 Button inspection. BCNs/MKRs tested in parallel with no user interaction
Manual Fast LI	BCNs/MKRs tested in parallel but holds restore stages for user input
Manual Staged LI	BCNs/MKRs tested in each mode singly & sequentially holds restore stages for user input
Manual LI	BCNs/MKRs tested one at a time based on user selection. Maximum timeout for each test is 30 minutes
Results Page	View the Lighting Inspection progress and results page

Lighting Inspection (LI) Commands:

- Inspection Type
    - Active or Inactive
- Inspection Stage
    - Shows if active
    - Time elapsed since last LI
- Selection of LI types available
- Results Page:
    - LI results after completion
    - Active tests (if present)
    - Test results will indicate **PASSED** / **FAILED**

Home Page – Lighting Inspections: Manual Inspection

Manual Lighting Inspection

* Only one alarm will be accepted for testing at a time. Other alarms will be ignored.

✓ Denotes the test ran in the last 8 hours.

System 1

Alarm Type	Alarm State	Activate Alarm
BCN Day Alarm	Normal	
BCN Red Night Alarm	Normal	
Marker Alarm	Normal	
Photodiode Dry Contact Test	Normal	

Manual Lighting Inspection

* Only one alarm will be accepted for testing at a time. Other alarms will be ignored.

✓ Denotes the test ran in the last 8 hours.

System 1

Alarm Type	Alarm State	Restore Alarm
✓ BCN Day Alarm	🔴 Alarm	

Lighting Inspection (LI) Manual:

- User activates each individual alarm one at a time and generates restoral.

- Will auto override to the appropriate mode during testing

- Mode override will end after alarm is restored.

  - Restoral time is ~1 minute per installed beacon

Home Page – Lighting Inspections: Auto Inspection


Lighting Inspection (LI) Auto:

- Automatically steps through LI for each component

- Test results will be presented after LI is complete

- Results shown as **Passed** or **Failed**

Home Page – Mode Override

Mode Override:

- Mode change command triggers a 30 min override

- Ability to cancel an existing mode override

- Displays current override mode

- Displays time remaining in minutes for the current mode override

- Longer than 30 min overrides can be initiated remotely through Modbus or SNMP for up to 45 days.

V3.6+: Mode Overrides remembered between power cycles

Home Page – Beacon (BCN) Status

Beacon 1 V3.2

Description	State
Beacon Communication Alarm (BCN COMM)	🟢 OK
Red Night Alarm (RNIGHT ALARM)	🟢 OK
White Day Alarm (DAY ALARM)	🟢 OK
White Night Alarm (WNIGHT ALARM)	🟢 OK
AOL Beacon	Yes
Life Runtime (days)	553
Beacon Core Temperature	57.9 °C / 136.1 °F

Beacon 1

Description	State
Beacon Communication Alarm (BCN COMM)	🔴 Alarm
Red Night Alarm (RNIGHT ALARM)	🟢 OK
White Day Alarm (DAY ALARM)	🟢 OK
White Night Alarm (WNIGHT ALARM)	🟢 OK
AOL Beacon	Yes
Life Runtime (days)	0
Reboot Counter	0
Beacon Core Temperature	Retrieving...

COMM Alarm Troubleshooting
- Link to troubleshooting video
- Link to troubleshooting flowchart

Beacon Status:

- Displays Beacon # (position) & Firmware (FW) Version

  - If V1.2 - V1.6 = IR

  - If V2.3 and up = Non-IR

- Status of individual alarms – **OK** / **ALARM**

- AOL Beacon selection

- Total Runtime (in days)

- Beacon "Core" Temperature

- If alarm(s) present, check the diagnostics page

- If COMM Alarm is active, check the following:

  - Is Power Failure Alarm active?

  - Is Low DC Alarm active?

  - Check DIAG for Input voltage A2D values

Beacon (BCN) Core PCB Replacements
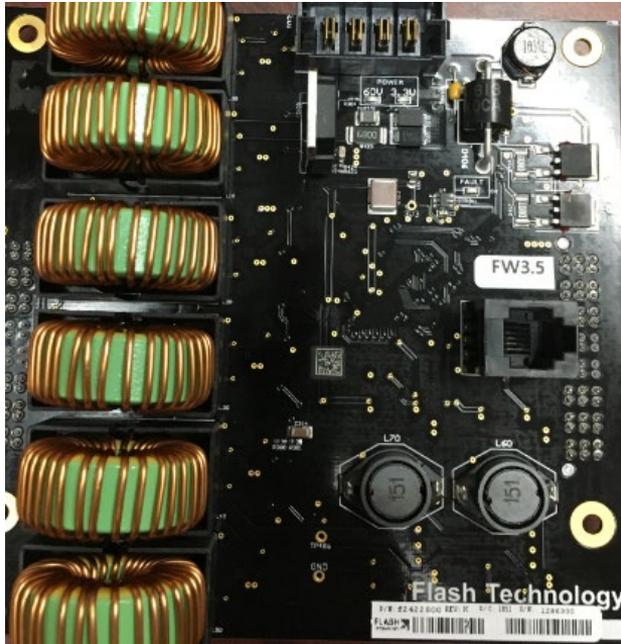
- Black Core boards = Standard FH
- P# 2422500

- Red Core boards = IR FH
- P# 2422600

Core Board Types Are Not Interchangeable

Home Page – Marker (MKR) Status

Marker Status:

- Displays Marker Tier # and FW Version

- # of markers configured in a tier

- Status of marker alarms **OK** / **ALARM**

- Individual marker status **OK** / **Fault**

  - Note: If markers are not connected, a **Fault** is indicated.

- Total runtime in days since first power-up

- Marker Box Temperature (board)

- If there is a marker alarm, check "Markers in Tier" to verify MKR condition (**OK** / **Fault**)

- If COMM Alarm is active, check the following:
  - Is Power Failure Alarm active?
  - Is Low DC Alarm active?
  - Check DIAG for Input voltage A2D values

Home Page – Controller (PCB1) Status

| Controller 1 V3.5.1	
Description	**State**
System Communication Alarm (SYS COMM)	🟢 OK
Lighting Inspection Test Mode (LI TEST MODE)	🟢 Off
Site Mode Override	🟡 On
Photodiode Alarm (PD ALARM)	🟢 OK
System GPS Sync Alarm (GPS ALARM)	🟢 OK
Tower Lighting Configuration Alarm (CFG ALARM)	🟢 OK
System Power Failure Alarm (POWER FAIL)	🟢 OK
Low Tower Lighting DC Voltage Alarm (LOW DC)	🟢 OK
Tower Lighting Sync Alarm (TWR SYNC)	🟢 OK
PLC Bindings Alarm (BIND ALARM)	🟢 OK
Tower Lighting Operating Mode	Day
Photodiode Mode	Day
Life Runtime (days)	299
Controller Box Temperature	52.5 °C / 126.5 °F
Tower DC Voltage	61.1 V
Bind State	Beacon

COMM Alarm Troubleshooting
- Link to troubleshooting video
- Link to troubleshooting flowchart

Controller (PCB1) Status:

- Displays Controller # and FW Version

- Status of individual alarms **OK** / **ALARM**

- Tower lighting operating and PHD modes

  - Under normal conditions both should be same

- Total runtime in days

- Controller Box Temperature

- Tower Bind Status - Shows the devices it is bound to.

- If COMM Alarm is active, check the following:

  - Is Power Failure Alarm active?

  - Is Low DC Alarm active?

  - Check DIAG for Input voltage A2D values

Home Page – Diagnostics and Configuration

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Event History

Event Log

Vanguard System Diagnostics

Diagnostics

Download Log File

Download Log File

Configuration

Configuration

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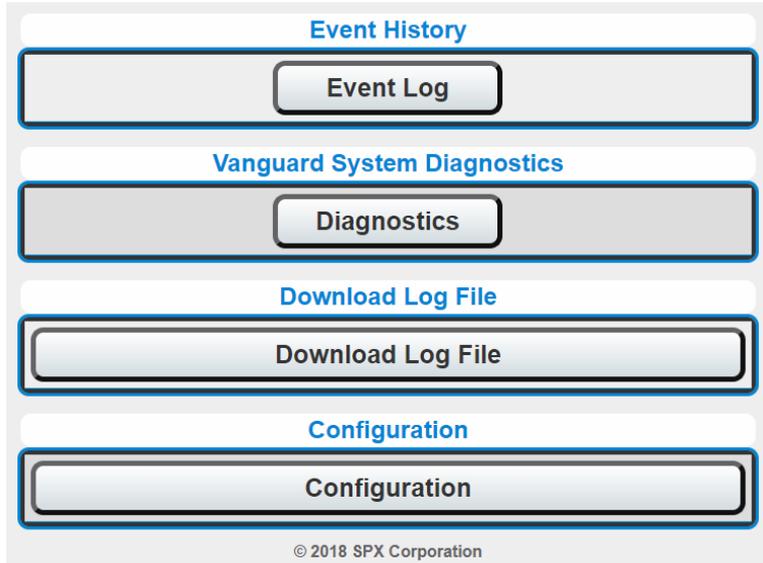
Diagnostics And Configuration Options

- Event Log lists the last 500 events in descending order (most recent first with uptime since last power up)

- System diagnostics provides the diagnostics for each device, including A2D values

- Download Log File (V3.5+) to obtain the log data for the last 2 days

  - Send file to Flash Technology for manufacturer troubleshooting

- Configuration:

  - Multiple device configurations can be set

  - By default, no password to access system

  - User can enable multiple levels of password protection to restrict access to the config page, mode override and LI commands

    - Changes are made in the Login Settings page

Home Page – Event Log

Click here for the Description of Reboot Event Codes

Event Log: 500 (Events)

Event	Age (Time Since Last Event)	Time
SYS1 MODE OVR -> OFF	1D 14H 1M	2019-10-30 19:21:37
PD ALARM -> RST	1D 14H 5M	2018-08-15 11:02:21
SYS1 MODE OVR -> ON	1D 14H 6M	2018-08-15 11:01:08
SYS1 MODE OVR -> OFF	2D 1H 46M	2018-08-15 11:00:14
SYS1 MODE OVR -> ON	2D 1H 51M	2018-08-15 10:57:30
SYS1 MODE OVR -> OFF	2D 5H 11M	2018-08-15 10:55:33
SYS1 MODE OVR -> ON	2D 5H 16M	2018-08-15 10:49:11
PD ALARM -> ALM	2D 5H 19M	2018-08-15 10:44:51
REBOOT EVENT (R)	2D 5H 20M	2018-08-15 10:39:13
SYS1 MODE OVR -> OFF	2D 4H 18M	2018-08-15 10:37:13
SYS1 MODE OVR -> ON	2D 4H 22M	2018-08-15 10:33:54
PD ALARM -> ALM	2D 4H 50M	2018-08-15 10:26:35
SYS1 MODE OVR -> OFF	3D 4H 4M	2018-08-15 10:22:39
PD ALARM -> RST	3D 4H 8M	2018-08-15 10:18:06
SYS1 MODE OVR -> ON	3D 4H 9M	2018-08-15 10:05:47
PD ALARM -> ALM	3D 4H 12M	2018-08-15 10:03:23
REBOOT EVENT (P)	3D 4H 13M	2018-08-15 09:54:22

Event Log:

- Event log lists events in order of occurrence and facilitates outage analysis.

- Description of reboot events in order of occurrence.

- Reboot Event Code

- Time since last event

- Event time in RTC format (V3.6+)

Home Page – Reboot Event Codes

Code	Description
A	The configured number of slave units are not communicating
B	The master unit has requested a non-responsive slave to reboot
C	Cellular communication has been lost to the Flash Technology NOC.
D	A reboot was initiated from the display user interface.
N	The firmware has repaired a memory error in the system hardware.
R	A reboot was requested from the Flash Technology NOC or over Modbus.
S	A slave unit (system2-6) has completed a firmware upgrade.
T	The firmware has detected a portion of its code is non-responsive.
U	A master unit (system 1) has completed a firmware upgrade.
W	A reboot was initiated from the web (Wi-Fi) interface.
Z	An unknown event has caused the unit to reboot.
P	No Communication from CPU to PLC Chip.

Reboot Event Codes:

- Codes are displayed in parenthesis after event listing

- Code list access via link above Event Log

Example:

If Beacon and Marker COMM are both active, and event log is showing Reboot Event (P) logged every 4-5 min then replace PCB1(Display) first.

Diagnostics – Beacon V3.2 FW

Beacon 1 A2D

| Description	Voltage	Current
WHT0	2143	3161
WHT1	2151	3180
WHT2	2155	3176
WHT3	2146	3184
WHT4	2158	3176
WHT5	2129	3146
RED0	2181	2116
RED1	2173	2195
Tower DC Voltage	3303	
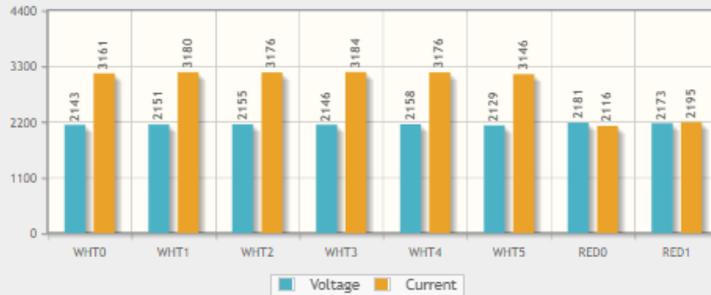
Diagnostics Page: Beacon# A2D

- A2D voltage and current values of each White and Red LED string

- The tower DC voltage nominal range of ~3400 represents DC voltage of ~59VDC.

- The tower current nominal range is ~ 3200

- Bar graph shows A2D values for the LED strings

Diagnostics – Beacon V3.5 FW

Beacon 1 A2D

Description	Voltage	Current
WHT0	2195	2145
WHT1	2190	2153
WHT2	2184	2155
WHT3	2212	2151
WHT4	2190	2151
WHT5	2177	2145
RED0	2203	1751
RED1	2198	1750
Tower DC Voltage	3221	
PLC Communications Quality	98%	
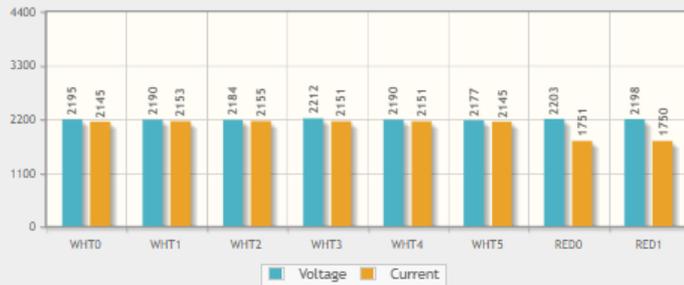
Diagnostics Page: Beacon# A2D

- A2D voltage and current values of each White and Red LED string

- The tower DC voltage nominal range of ~3400 represents DC voltage of ~59VDC.

- The tower current nominal range is ~ 2150

- Bar graph shows A2D values for the LED strings

Diagnostics – Beacon IR V1.2 FW

Beacon 1 A2D

Description	Voltage	Current
WHT1	2263	3170
WHT2	2224	3158
WHT3	2253	3161
WHT4	2266	3178
WHT5	2311	3146
RED0	2181	2116
RED1	2173	2195
IR	0985	3229
Tower DC Voltage	3228	

Diagnostics Page: Beacon# A2D

- A2D voltage and current values of each White, Red and IR LED string

- The tower DC voltage nominal range of ~3400 represents DC voltage of ~59VDC.

- Bar graph shows A2D values for the LED strings

Diagnostics – Beacon IR V1.4 FW
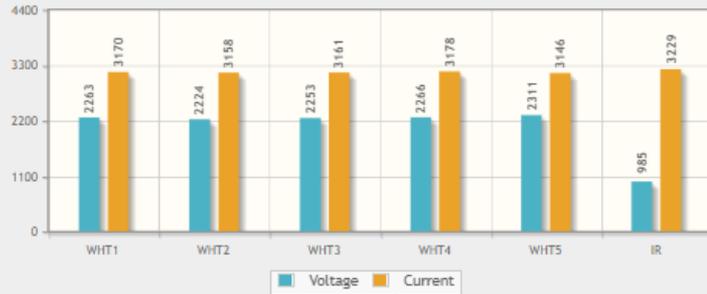
Beacon 1 A2D

Description	Voltage	Current
WHT1	2296	2666
WHT2	2333	2659
WHT3	2324	2666
WHT4	2335	2651
WHT5	2325	2649
RED0	2320	1750
RED1	2334	1750
IR	0977	2387
Tower DC Voltage	3183	
PLC Communications Quality	95%	

Diagnostics Page: Beacon# A2D

- A2D voltage and current values of each White, Red and IR LED string

- The tower DC voltage nominal range of ~3400 represents DC voltage of ~59VDC.

- Bar graph shows A2D values for the LED strings

Diagnostics – Beacon
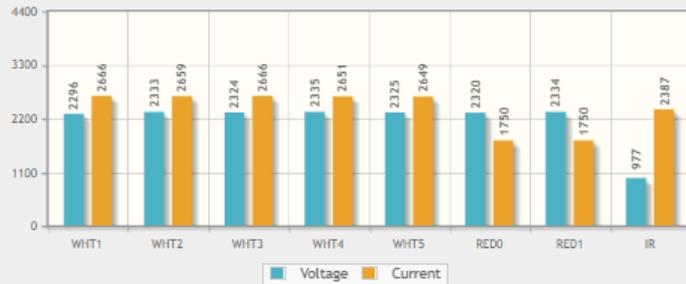
Beacon 1 A2D

Description	Voltage	Current
WHT0	1733	0051
WHT1	1735	0052
WHT2	1728	0044
WHT3	1739	0060
WHT4	0003	0003
WHT5	0003	0003
RED0	1824	0211
RED1	1822	0234
Tower DC Voltage	3192	
PLC Communications Quality	97%	
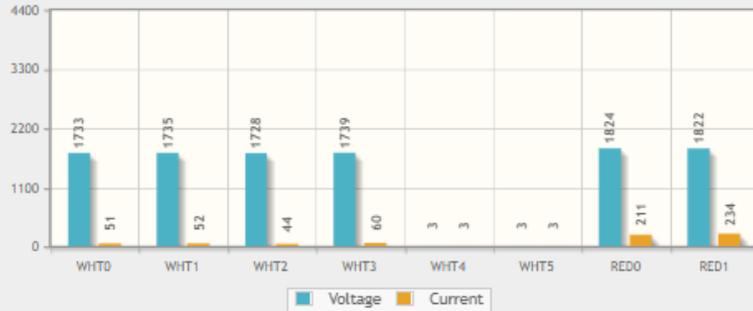
Diagnostics Page: Beacon# A2D Lighting Alarms

- Recommend replacing the surge board with any flashhead core board replacement.

- Replace Flashhead if:

  - Voltage is high and current is low (Failed open)

  - Voltage is low but current is normal (Failed short)

- Replace Core Board if:

  - Voltage High and current High

  - Voltage High and current Normal

  - Voltage Normal and current High or Low

  - Voltage Low and current High

  - Voltage Low and current Low

Diagnostics – Beacon (Failure Example)

Beacon 1 A2D

Description	Voltage	Current
WHT1	2216	2144
WHT2	2232	2152
WHT3	2213	2154
WHT4	2207	2148
WHT5	0438	2142
RED0	2146	1350
RED1	2143	1350
IR	0987	2367
Tower DC Voltage	3286	
PLC Communications Quality	94%	

Replace Flashhead:

- String 5 (white) voltage low, current normal

- Indicates string failure on string 5

- Replace the flashhead.

Beacon 1 A2D

Description	Voltage	Current
WHT1	2216	2144
WHT2	2232	2152
WHT3	2213	2154
WHT4	2207	2148
WHT5	2204	2142
RED0	2146	1350
RED1	3286	0019
IR	0987	2367
Tower DC Voltage	3286	
PLC Communications Quality	94%	

Replace Flashhead:

- Red 1 string current is low, voltage is high

- Red string 1 has failed

- Replace the flashhead

Diagnostics – Marker

Marker Tier 1 A2D

Description	Value
Markers Per Tier	3
MKR1 Current	0003
MKR2 Current	1920
MKR3 Current	1932
MKR4 Current	0003
Marker Drive Voltage	1526
Tower DC Voltage	3471
PLC Communications Quality	99%
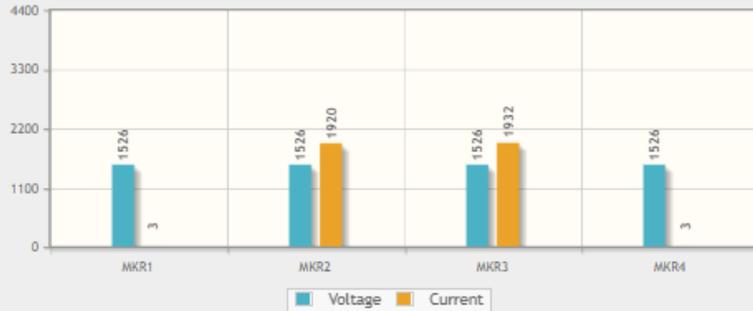
Diagnostics Page: Marker# A2D in ALARM

- A2D values for each marker output

- Marker Drive Voltage that powers each marker

- Tower DC Voltage Nominal Range: ~3400 (58VDC)

- Bar graph of Voltage and Current A2D for MKR

  - Only 2 current values for 3 markers in the graphic indicate that (1) marker has failed

- Replace Marker if:

  - A2D for that marker position is low

  - Reporting just marker alarm

- Replace Marker Board if:

  - All marker outputs in alarm and Marker Drive Voltage is 0 (zero)

- Check MKR Connections at PCB if Marker Alarm is chattering

Diagnostics – IR Marker

Marker Tier 1 A2D

Description	Value
Markers Per Tier	3
MKR1 Current	3134
MKR2 Current	3211
MKR3 Current	3176
MKR4 Current	0003
Marker Drive Voltage	1513
Tower DC Voltage	3399
PLC Communications Quality	97%
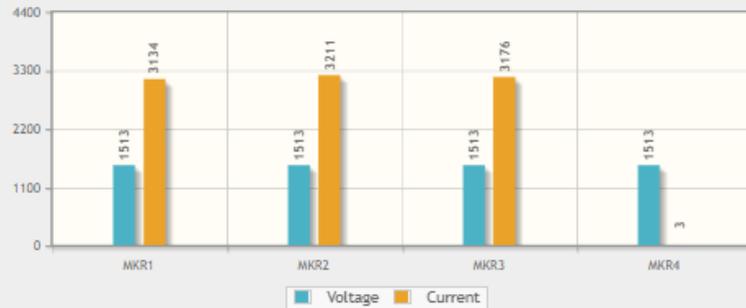
Diagnostics Page: Marker# A2D for IR

- Graphic shows a marker in alarm free status

System Configuration Diagnostics

Configuration

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Menu

Home

Vanguard Configuration

- Tower Lighting
- System 1
- Monitoring
- Network
- SNMP Labels
- Cellular Modem
- SNMP Settings
- Login Settings
- System Settings

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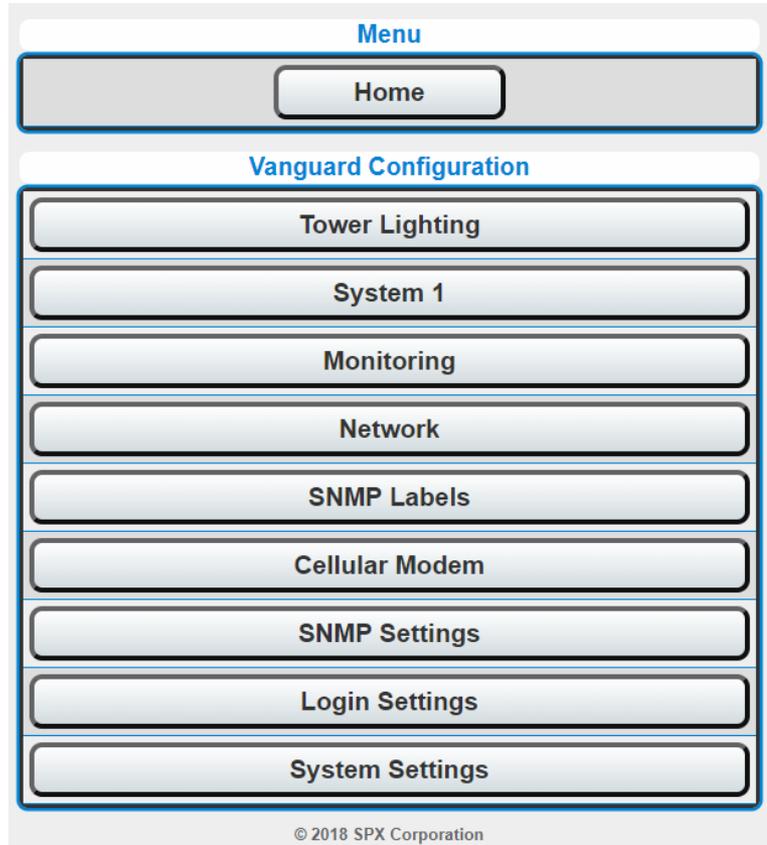
Configuration Options:

- Tower Lighting

- System #

- Monitoring

- Local Ethernet Network

- SNMP Custom Labels

- Cellular Modem
  - For Flash modems and custom APN modems

- SNMP settings for SNMP V2C, SNMP V3

- Login Settings
  - Login password & webpage access settings

- System Settings

Configuration – Tower Lighting

Vanguard Tower Lighting Configuration

Description	Current State	Set State
Site ID	Not Set	
Site Name	Not Set	
Tower Lighting Type	Dual	--- Select --- ▼
Total Beacons	3	--- Select --- ▼
Marker Mode	Flashing	◉ Flashing ○ Steady
Red Flash Mode	Efficiency	◉ Efficiency ○ Legacy
Flashes Per Minute Red	30	--- Select --- ▼
GPS Sync	Disabled	
GPS Delay (ms)		0 / Load Default
Catenary	No	
Dry Contacts	Separate	○ Combined ◉ Separate
Disarm Photodiode Alarm	Off	
IR Enable	No	
IR Alarm Is Night Alarm	Yes	
Markers Enabled	Yes	
Flash Specification	FAA	--- Select --- ▼
Auxiliary Input	Disabled	

Commit Settings	Cancel	Home
Controller 1 Reboot		Reboot
Reboot All Controllers		Site Reboot

Tower Lighting Configuration Page:

- Enter Site ID and Site Name

- Select Tower Type & Total Beacons from menu

- Marker Mode - Steady/Flashing

- IR Enable – Yes/No (Does not affect markers)

- IR Alarm is Night Alarm

  - When enabled, an IR alarm will trigger the night alarm.

- Default flash specification is FAA

- Reboot – Controller 1 only

- Site Reboot – All controllers at the site

Tower Lighting

Configuration – System Config

System 1 Configuration

Description	Current State	Set State
Markers Per Tier	3	--- Select --- ▾
AOL Beacon	Yes	(toggle on)
Beacon Bind State	Bound	
Marker Bind State	Bound	
Beacon Enabled	Yes	(toggle on)

System # Configuration Page:

- Markers Per-Tier

- AOL Beacon – Yes/No

- Beacon Bind State – Bound/Unbound

- Marker Bind State (if present)

- If "Beacon Enabled = No", it will not alarm

System 1

Configuration – System Config Continued…

System 1 Reportable Events Configuration

System # Configuration Page:

- Reportable Event Configuration

  - When disabled, an SNMP trap will not be sent or stored in the event log.

  - Disable SNMP traps during troubleshooting for root cause of chattering to prevent excessive traps

System 1

Configuration – Monitoring

Monitoring Configuration Page:

- Default monitoring configuration shown in graphic

- SNMP can only be enabled on the primary

Configuration – Local Ethernet

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Vanguard Local Network Configuration

Description	Current Value	Set Value
IP Addressing Mode	Static	○ Dynamic ◉ Static
Network Address		192.168.1.11
Subnet Mask		255.255.255.0
Default Gateway		192.168.1.10

Commit Settings | **Cancel** | **Home**

Local Ethernet Network Configuration Page:

- Default local network configuration to configure System 1 on the connected network

- Options for Primary Data Monitoring:

  - Disabled

  - Cellular Eagle

  - RS485 Modbus RTU

  - Ethernet SNMP / Modbus (RTU / TCP)

  - Ethernet Eagle

- A full description of each is available in the product manual

Network

Configuration – SNMP Labels

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SNMP Labels Configuration		
Description	**Name**	**Severity**
Site ID	Not Set	
Site Name	Not Set	
White Day Alarm (DAY ALARM)	White Day Alarm (DAY	Critical
White Night Alarm (WNIGHT ALARM)	White Night Alarm (WN	Critical
Red Night Alarm (RNIGHT ALARM)	Red Night Alarm (RNIG	Critical
Beacon Communication Alarm (BCN COMM)	Beacon Communicatio	Critical
Photodiode Alarm (PD ALARM)	Photodiode Alarm (PD	Critical
System Communication Alarm (SYS COMM)	System Communicatio	Info
System GPS Sync Alarm (GPS ALARM)	System GPS Sync Alai	Warning
Lighting Inspection Test Mode (LI TEST MODE)	Lighting Inspection Tes	Info
System Voltage High	System Voltage High	Info
System Voltage Low	System Voltage Low	Info
System Power Failure Alarm (POWER FAIL)	System Power Failure	Critical
Site Mode Override	Site Mode Override	Info
Communication Change	Communication Chang	Info
Automatic Update	Automatic Update	Info
Population Change	Population Change	Info
Detected Systems	Detected Systems	Info
Tower Lighting Configuration Alarm (CFG ALARM)	Tower Lighting Configu	Critical
Low Tower Lighting DC Voltage Alarm (LOW DC)	Low Tower Lighting DC	Info
Tower Lighting Sync Alarm (TWR SYNC)	Tower Lighting Sync Al	Critical
PLC Bindings Alarm (BIND ALARM)	PLC Bindings Alarm (B	Critical
Photodiode Mode Change	Photodiode Mode Chai	Info
Marker Tier Communication Alarm (MKR COMM)	Marker Communicatio	Warning
Marker Alarm (MKR ALARM)	Marker Alarm (MKR AL	Warning
Marker Board Output Voltage	Marker Output Voltage	Info
Marker Board Output Voltage High	Marker Output Voltage	Info
Infrared Alarm (IR ALARM)	IR Alarm (IR ALARM)	Warning
Infrared Not Available Alarm (IR N/A)	IR Not Available Alarm	Warning

SNMP Labels Configuration Page:

- Labels are configurable to facilitate use of User Terminology

SNMP Labels

Configuration – SNMP Options

SNMP Settings Configuration Page:

- Allows SNMP V2C and V3 configuration settings based on the SNMP Version selected in System Settings.

- Inform Retry Interval:

  - Time between repeats if alarm not acknowledged

  - Default is 1200

- Inform Retry Count:

  - Default number of repeats is 72

SNMP Settings

Configuration – Login Settings

Login Settings Configuration Page:

- Change the password for the webpage

  - Default password is FlashAdmin

  - Password is case sensitive

- Webpage access restrictions can be set

  - Default is no password

  - Available options are:

    - None

    - Configuration pages only

    - All (Includes Configuration Pages, Forced Mode Overrides and Lighting Inspection commands.

Configuration – System Settings

System Settings Configuration Page:

- Configure for FTP, SSH access

  - Default is enabled

- Webpage Communications Protocol:

  - Set to HTTPS or both HTTP and HTTPS

  - Default is both

- SNMP Version is selectable

  - Default is V2C

  - Backwards compatible to V2

Alarm Review

Alarm Definitions – Critical

FLASH TECHNOLOGY

Critical	Description	Possible Causes
POWER FAIL	Input power failure. PCB 1 is operating on battery backup.	Input power loss. Check internal and external breaker.
CFG ALARM	SC is detecting devices that it is currently not configured to support.	Check CONFIG settings
TWR SYNC	(1) or more subordinate SCs have not synchronized with System 1 for a period of one hour or more. (System 1 only)	Check for SYS COMM Fail.
BIND ALARM	(1) or more SCs are not bound correctly. A 'SYS COMM' alarm will accompany the 'BIND ALARM'. (1) or more SCs are bound to the same connected equipment.	Unbind and Rebind tower while following the correct "power down" procedure.

Alarm Definitions – Critical Continued

Critical	Description	Possible Causes
DAY ALARM	FH is exhibiting a white day alarm	Light output decreased by 25% Skips (4) or more consecutive flashes. Check A2D values
WNIGHT ALARM	FH is exhibiting a white night alarm.	Light output decreased by 25% Skips (4) or more consecutive flashes. Check A2D values
RNIGHT ALARM	FH is exhibiting a red night alarm.	Light output decreased by 25% Skips (4) or more consecutive flashes. Check A2D values

Alarm Definitions – Critical Continued

Critical	Description	Possible Causes
BCN COMM	FH not communicating with SC	Not detecting PLC from SC (wiring or power related) Failed core PCB
PD ALARM	More than 19 hours have passed since the system has changed modes via the photodiode. (System 1 only)	No mode change detected by photodiode in last 19 hours. Check photodiode connections. Verify that outside light sources are not influencing PHD operation. Suggested Parts: Photodiode, PCB1

Alerm Definitions – Warning

FLASH TECHNOLOGY

Critical	Description	Possible Causes
IR ALARM	FH is exhibiting an IR alarm.	Light output decreased by 25% Skips (4) or more consecutive flashes. Check A2D values
GPS ALARM	GPS sync has not occurred for a period of (1) hour or more.	GPS antenna failure or damaged GPS chip on PCB 3 Smart Board. Verify unobstructed view of the sky.
IR N/A	Infrared is not available or supported by the attached FH.	Verify correct FH and/or core PCB is installed.
MKR COMM	The SC is experiencing a comm failure with the connected marker interface board.	Not detecting PLC from SC (wiring or power related). Replace MKR board
MKR ALARM	The connected marker interface board is reporting failure of (1) or more markers. The exact marker(s) which have faulted are included in the INFORM.	Replace MKR Recommended to have spare MKR PCB

Alarm Definitions – Informational

Critical	Description	Possible Causes
SYS COMM	<u>Any communication failure in the system will generate a SYS COMM failure on System 1.</u> The SYS COMM alarm will be accompanied by a specific communication alarm if the failure is local to System 1. Absence of a specific communication failure on System 1 indicates a communication failure on a subordinate unit (System 2-6). A communication failure on any subordinate unit will be accompanied by a SYS COMM alarm.	Varies based on alarms accompanied with SYS COMM. Rebooting every 4-5 minutes ➔ PCB1 failure. "Reboot Code A" in event log every 10 minutes ➔ Failure of data cable link (RS485) between controllers. Verify configuration is appropriate (specifically # of BCNs)
LI TEST MODE	System 1 is conducting a Lighting Inspection test.	User initiated LI
LOW DC	Output voltage (~60 VDC) to the connected flash head and marker tier (if present) is low.	If not accompanied with "Power Fail" alarm replace power supply

Photodiode Alarm – Options to Control Operating Mode

Photodiode Alarm:

When a Photodiode alarm is active the tower operates in day mode 24/7 for Dual and White (E/D) tower types.

- Possible Cause:

  - A mode change was not detected from photodiode in the past 19 hours.

- Suggested Replacement Parts:

  - Photodiode

  - PCB1

- Possible options to control the mode until the site visit, if current/active NOTAM is present:

  - Option 1: Change the tower type to Red.

  - Option 2: Verify if the photodiode has failed in night mode by checking photodiode mode on the home page. If yes then set Disarm Photodiode Alarm to On in the tower lighting configuration web page.

  - Option 3: Start long duration mode override to Red Night for Dual tower types.

- Recommended Customer Compliance Department be notified before changes are made