

### 1. Description

Providing all the benefits of Lithium ion **phosphate** technology in a robust, marine-designed format, the G31-128AH represents the next step in optimal power capacity and battery life-cycle.

The G31-128AH is equipped with the advanced feature; ECAB (Enhanced Capacity Active Balancing) which electronically maintains individual cell voltage, balancing the cells through “active” technology with consideration of both temperature and voltage. ECAB - Active balancing enhances capacity as opposed to “passive” balancing which depletes the battery to maintain cell balance.

Multiple batteries can be connected in parallel and /or series; up to 10 batteries forming 1280 Amp Hours (parallel -12 Volt) power pack or 24V configuration series / parallel.

### 2. Specifications

Parameter	Value	Units
Dimensions W x H x D	300 x 165 x 254	mm
Weight	14.6	kg
Housing material	ABS high-impact	-
Storage Temperature range	-20 .. +65	deg Celsius
Protection	IP 56	-
Maximum shock	1	G
Maximum relative humidity	95	%

### 3. Electrical specifications

Parameter	Value	Units
Nominal Battery Voltage (no load)	12.8	Volts
Maximum Battery Voltage	14.6	Volts
Minimum Battery Voltage	8.8	Volts
Charging Voltage @ 25 deg C	14.4	Volts
Temperature Range for discharging	-20 .. +65	deg Celsius
Temperature Range for charging	0 .. +65	deg Celsius
Re-Set Temperature	60	deg Celsius
Maximum Charging Current	100	Amps
Discharging Current	100	Amps
Surge Discharge Current	200 (30 seconds)	Amps
Capacity	128	Amp Hours
Amount of charging cycles (to 80% SOC at 20 deg C)	3500	-

### 4. ECAB Functions

ECAB status indications and diagnostics provide a comprehensive overview of the battery’s condition. Equipped with a case-mounted status LED and a connector to USB interface, the G31-128AH offers an “at a glance” confirmation of the battery’s SoH (State of Health) and also the internal individual cell voltage and battery temperature.

**LED** – The 2 color LED indicates the battery status;

Flashing Green – all cells in optimal state

Flashing Red – Fault Mode – either temperature or voltage out of optimal state.

*Action:* Disconnect the effected battery; further diagnostics can be determined through the use of the “ECAB - Utility”. Re-connect when fault condition has cleared, if condition returns contact ElectroMaax technical support.

A Battery status check should be included in the routine "pre-departure dock" checklist.  
<https://abycinc.org/page/checklist>

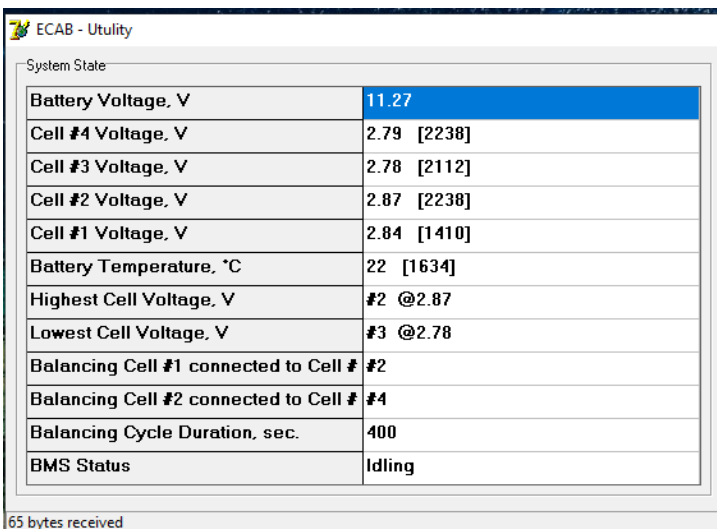
**5. Caution**

When used with the ElectroMaax AT3 Smart Regulator system no external BMS (Battery Management System) is required. All other applications require an external BMS (ElectroMaax P/N SMR-E3-BCM) .

**6. Battery Diagnostic Communication:**

In the event of a battery fault as indicated by the status LED flashing "RED"; the details of the fault can be determined through the connection of the "E3 USB INTERFACE" cable and reviewing the performance parameters through the ECAB - Utility application.

1. Connect cable to battery "Communication Port"
2. Connect USB cable end to PC
3. Launch utility "ECAB.exe"
4. Review parameters to identify fault condition.
5. The primary reasons for faults is the battery temperature and / or voltage



System State	
Battery Voltage, V	11.27
Cell #4 Voltage, V	2.79 [2238]
Cell #3 Voltage, V	2.78 [2112]
Cell #2 Voltage, V	2.87 [2238]
Cell #1 Voltage, V	2.84 [1410]
Battery Temperature, °C	22 [1634]
Highest Cell Voltage, V	#2 @2.87
Lowest Cell Voltage, V	#3 @2.78
Balancing Cell #1 connected to Cell #	#2
Balancing Cell #2 connected to Cell #	#4
Balancing Cycle Duration, sec.	400
BMS Status	Idling

65 bytes received



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