

E-MAAX PRO X V6 Regulator optimizes alternator output based on;

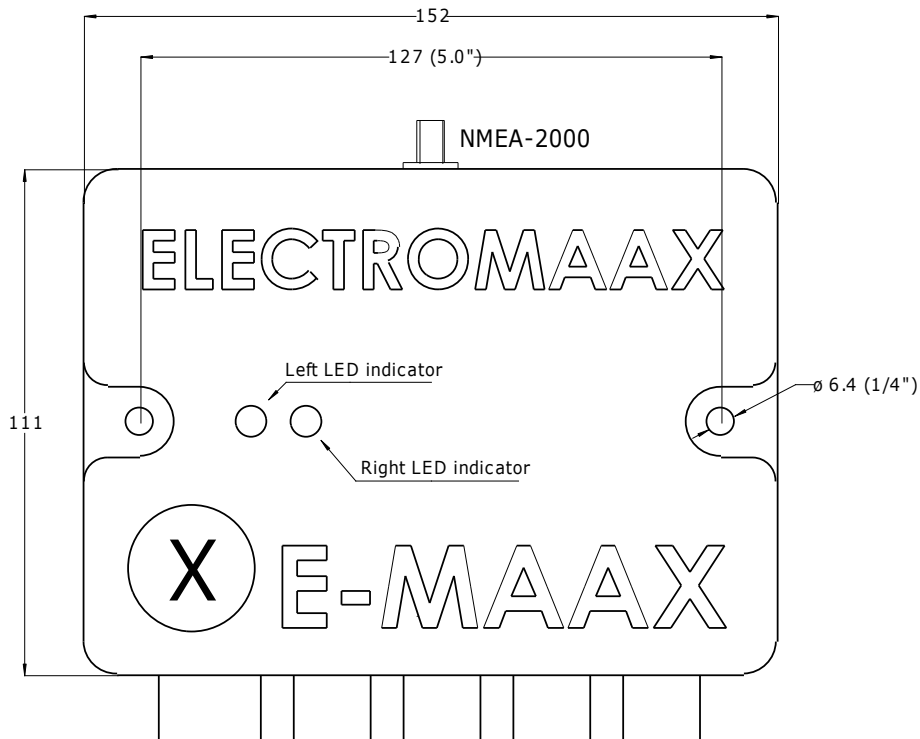
- System load
- Battery type
- Engine RPM

The battery charging profile is programmed based of battery type for the common batteries (Lead Acid / AGM / Gel / FireFly / Custom-LiFePO₄ / "LiFePO₄ MAAX") in both 12 and 24 Volt and "P" or "N" alternator configurations. The PRO X has two LED's which function as visual status indicators and fault diagnostics.



1. Dimensional outline and mechanical specifications

Parameter	Value	Units
Weight	200	grams
Housing material	Polypropylene	-
Operating range	-20 .. +100	Celsius deg
Protection	IP 56	-
Maximum allowable shock	3	G
Maximum allowable relative humidity	95	%

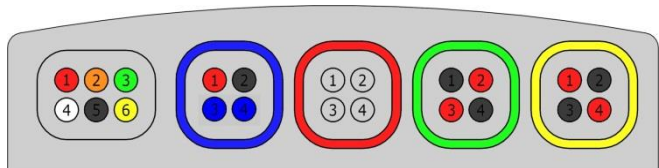


All units are millimeters (inches)

2. Electrical specifications

Parameter	Value	Units
Maximum operating supply voltage	40	Volts
Current consumption	Up to 0.150	Amps
Maximum operating Field current	20	Amps
Maximum operating voltage at Battery Voltage Sensor leads	40	Volts
Maximum operating voltage at Alternator Current Shunt leads	40	Volts
Maximum operating voltage at Battery Current Shunt leads	5	Volts
Power Cable ratings	Gauge: 14 AWG Material: tinned copper Insulator Material: PVC Jacket Color: black Diameter: 13 mm Insulation: up to 300 Volts	-
Signal and Sensing Leads ratings	Gauge: 18 AWG Material: tinned copper Insulator Material: PVC Insulation: up to 300 Volts	-

Refer to the connectors diagram below for additional connection information on cables. The diagram shows a regulator view from the connectors side.



Cable	Color Code	Pin	Pin Color	Function	Connects to
Power Harness	None	1	Red	Battery Positive	B+ post of the alternator
		2	Brown	Field Output #1	F post of the alternator
		3	Green	Field Output #2	F post of the secondary alternator
		4	White	Ignition Input	Ignition source
		5	Black	Battery Ground	case of the alternator
		6	Yellow	Tachometer Input	W post of the alternator
Alternator Temperature sensing	Blue	1	Red	Temperature Sensing	case of the alternator
		2	Black		
		3	Blue	Field Reduction Switch	Customer Supplied Switch (NO) - Optional
		4	Blue		
Regulator-to-regulator communication	Red	1	-	OUT-	"IN-" at another Pro X
		2	-	OUT+	"IN+" at another Pro X
		3	-	IN+	"OUT+" at another Pro X
		4	-	IN-	"OUT-" at another Pro X
Battery Voltage and Temperature sensing	Green	1	Red	Temperature Sensing	Sensor to either battery post
		2	Black		
		3	Red	Voltage sensing	B+ post of the battery
		4	Black		B- post of the battery
Battery and Alternator Current sensing	Yellow	1	Red	H lead	Battery Current Shunt
		2	Black	L lead	Battery Current Shunt
		3	Black	L lead	Alternator Current Shunt
		4	Red	H lead	Alternator Current Shunt

Charging stages and supported chemistries:

- Lead-acid
- AGM
- Gel
- Carbon Foam
- Lithium MAAX LiFePO4
- Lithium

Upon the activation of the Ignition lead, the PRO X Regulator regulates the battery charge through the following charge profile stages:

- Warm-up
- Mandatory Bulk
- Bulk + Absorb
- Float

Depending on the charging conditions, such as immediate load requirements and engine speed, the PRO X Regulator switches between the charge profile stages to achieve the optimal charging.

Notes:

- If shunt is customer supplied ensure the voltage at the Battery Current Shunt leads, H and L, is NOT greater than 5V in respect to the Battery Ground.
- Make sure the harness color codes match that of the regulator connectors.

3. PC software for USB interface

USB interface is provided for full access to the device's parameters. It connects to a PC via the **EmX.exe** application. The application is available to download from the ElectroMaax website www.electromaaxsupport.com/EmX6.zip

4. NMEA-2000 interface

PRO X Regulators can be connected to an existing NMEA-2000 network allowing current regulator status to be displayed on the vessel's displays.

Network credentials are as following:

- NMEA2000 VID = 1127 decimal or 0x0467 hex
- NMEA2000 PID = 25936 decimal or 0x6550 hex
- NMEA2000 Product Name = Electromaax X
- NMEA2000 Function Code = 141
- NMEA2000 Class Code = 35
- NMEA2000 Software Version = 1.0
- NMEA2000 Standard = 3.101

The following PGNs are transmitted over the network:

- PGN127506()
- PGN127508()
- PGN127751()

5. Wi-Fi interface

Table below shows the parameters of the Wi-Fi transceiver of the PRO X regulators:

Parameter	Value	Units
Center frequency range	2412 .. 2484	MHz
Wi-Fi wireless standard	IEEE 802.11b/g	-
Data rate at 20MHz 11b	1, 2, 5.5, 11	Mbps
Data rate at 20MHz 11g	6, 9, 12, 18, 24, 36, 48, 54	Mbps
Antenna type	PCB trace antenna	-
TX Power 11b at 1 Mbps	19.5	dBm
TX Power 11b, 11 Mbps	19.5	dBm
TX Power 11g, 6 Mbps	18	dBm
TX Power 11g, 54 Mbps	14	dBm

In order to view the information on the regulator's website, users run a Web Browser on any platform, and type the local IP address in the address bar. When a gauge is grayed out, it means that there is no corresponding input. Field Reduction Switch buttons "FRS+" and "FRS-" appear when the PRO X regulator is in charging mode. Remote Support is enabled by clicking "Share Data with Support" button in the "About" section of the website.

Notice

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