
PROsine 2.0 Charging Algorithms Bulletin

Technical Bulletin

PROsine 2.0

976-0125-01-01 Rev A

PROsine 2.0 Charge Algorithms

[Table 1](#) summarizes the voltage and current setpoints for the charging algorithms. These voltage setpoints are applied for a battery temperature of 20°C. To determine the voltage setpoints at other temperatures, apply the temperature coefficient as follows:

$$V_{T_X} = V_{20^\circ} + \frac{TC \times (T_X - 20^\circ)}{1000}$$

For example, generic gel float voltage at 50° will be

$$V_{50^\circ} = 13.8V + \frac{-27 \frac{mV}{^\circ C} \times (50^\circ - 20^\circ)}{1000} = 13.0V$$

Table 1 Charge Algorithms

Charge Algorithm	Comment	Temp Coeff. (MV/°C)	Bulk / Absorption		Float*	Equalize
			Max V	Max I	Max V	Max V
			(V)	(%C)**	(V)	(V)
1	Generic Flooded	-27	14.4	30	13.5	17.5
2	Generic Gel	-27	14.2	25	13.8	***
3	Generic AGM	-21	14.3	30	13.45	***
4	Generic PB-Ca	-27	15.5	30	13.5	17.5
5		-27	14.1	25	13	17.5
6		-27	14.2	25	13.5	***
7		-30	14.5	25	13.5	17.5
8		-30	15.3	25	14.3	17.5
9		-30	14.4	30	13.5	17.5
10		-30	14.15	30	13.5	14.2
11		-27	14.4	30	13.8	***
12		-21	15.5	25	13.75	16
13		-21	14.8	25	13.6	15.5
14		-27	15	200	13.7	***
15		-21.66	14.2	12.5	13.7	16.5
16		-21.66	14	10	13.5	16.5
17		-27	16	20	13.5	17.5
18		-16	14.2	20	13.2	15.5
19		-15	14.7	200	13.5	17.5
20		-15	13.5	200	13.5	17.5
21		-27	14.6	20	13.5	17.5

* The charger delivers maximum available current to power the DC loads: it is not limited by battery size.
 ** See "Max Current (%C)" in your manual.
 *** The algorithms marked *** do not permit Equalize.

Battery Type—Charge Algorithm Guide

Use the information in [Table 2](#) to match your battery type with the appropriate Charge Algorithm and Charger Type.

Different battery manufacturers suggest different battery charging algorithms. The following information has been provided to Xantrex by the associated battery manufacturer. This list is provided as a reference only. It is highly recommended that you confirm the actual charging algorithm with your battery manufacturer. If your battery is not listed, please choose one of the preprogrammed algorithms listed in [Table 1](#), or customize the settings to match your battery manufacturer's suggestion (see your PROsine 2.0 User Guide).

Table 2 Battery Type – Charge Algorithm Guide

If you have this kind of battery	Select Charge Algorithm	Set Charger Type to
Canadian Tire Nautilus by Exide	5	3 Step
Canadian Tire, Gel by Exide	6	3 Step
Concorde AGM Valve Regulated	3	3 Step
Delco 1150 by Delphi	17	3 Step
Delco 1200 by Delphi	17	3 Step
Delco 2000 by Delphi	17	3 Step
Delco Voyager by Delphi	17	3 Step
Douglas Marine/Deep Cycle	21	3 Step
Dulast Deep Cycle Flooded, Deep Cycle/Starting (by Johnson Controls)	13	3 Step
Dulast Deep Cycle Flooded, Starting/Deep Cycle (by Johnson Controls)	12	3 Step
Energizer Deep Cycle Flooded, Deep Cycle/Starting (by Johnson Controls)	13	3 Step
Energizer Deep Cycle Flooded, Starting/Deep Cycle (by Johnson Controls)	12	3 Step
Eveready Deep Cycle Flooded, Deep Cycle/Starting (by Johnson Controls)	13	3 Step
Eveready Deep Cycle Flooded, Starting/Deep Cycle (by Johnson Controls)	12	3 Step
Exide Flooded	5	3 Step
Exide Gel Master	6	3 Step
GNB Action Pac	7	3 Step
GNB Evox	9	3 Step
GNB Stowaway	8	3 Step
GNB Sunlyte	10	3 Step
Hawker Energy, Genesis	14	3 Step
Interstate Deep Cycle Flooded, Deep Cycle/Starting (by Johnson Controls)	13	3 Step
Interstate Deep Cycle Flooded, Starting/Deep Cycle (by Johnson Controls)	12	3 Step
Interstate Optima, Normal	19	3 Step
Johnson Controls Flooded - Deep Cycle/Starting	13	3 Step
Johnson Controls Flooded - Starting/Deep Cycle	12	3 Step
Keystone Solid Energy (Flooded)	16	3 Step
Keystone Solid Energy (Gel)	15	3 Step
Metra Electronic - Tsunami, Normal	19	3 Step

Table 2 Battery Type – Charge Algorithm Guide

Optima Blue Top	19	3 Step
Optima Red Top	19	3 Step
Optima Yellow Top	19	3 Step
Rolls Deep Cycle by Surrrette	18	3 Step
Sears Canada, Marine by Delco	17	3 Step
Sears Canada, Marine Flooded by Exide	5	3 Step
Sears USA, by Johnson Controls, Flooded Deep Cycle/Starting	13	3 Step
Sears USA, by Johnson Controls, Flooded Starting/Deep Cycle	12	3 Step
Sears USA, Gel by Johnson Ctls	11	3 Step
Sonnenshein P300/500, SP300 Powerfit AGM	2	3 Step
Sonnenshein A400 Dryfit Gel	2	3 Step
Sonnenshein A500 Dryfit Cyclic Gel	2	3 Step
Sonnenshein A600 Dryfit OpzV Gel	2	3 Step
Sonnenshein A700 Dryfit Gel	2	3 Step
Sonnenshein Gel A200/300 Dryfit	2	3 Step
Sonnenshein L400 Powerfit, Long Life AGM	2	3 Step
Sonnenshein S300/500 Powerfit AGM	2	3 Step
Surrrette Deep Cycle	18	3 Step
Trojan Gel Safe	1	3 Step
Trojan Golf	1	3 Step
Trojan Mileage Master	1	3 Step
Trojan Mustang	1	3 Step
Trojan Pacer	1	3 Step
Trojan Rider	1	3 Step
Trojan Sea Stallion	1	3 Step
Westmarine Sea Gel by Sonnenshien	2	3 Step
Westmarine Sea Volt by Trojan	1	3 Step

Trademarks

PROsine 2.0 is a trademark of Xantrex International. Xantrex is a registered trademark of Xantrex International. Other trademarks, registered trademarks, and product names are the property of their respective owners and are used herein for identification purposes only.

Notice of Copyright

PROsine 2.0 Charging Algorithms Bulletin © April 2006 Xantrex International. All rights reserved.

Date and Revision

April 2006 Rev A

Part Number

976-0125-01-01

Contact Information

Telephone: 1 800 670 0707 (toll free North America)
1 360 925 5097 (direct)

Fax: 1 800 994 7828 (toll free North America)
1 360 925 5143 (direct)

Email: customerservice@xantrex.com

Web: www.xantrex.com