

CHARGING INSTRUCTIONS

RELiON R4000 DRY SERIES BATTERIES

To maximize the life of your R4000 Dry Series batteries use the following charge parameters. A lead-acid flooded battery charger can be used, if the settings are within the parameters of R4000 batteries.

R4000 batteries can be charged with either a 3-step constant current, constant voltage, constant voltage (CC-CV-CV) profile or a 3-step constant current, constant voltage, constant current (CC-CV-CC) profile.

CC-CV-CV Charge Profile - 3 Step

2-STEP CHARGE DESCRIPTION	STEPS	DESCRIPTION	CHARGE PARAMETERS			
Step 1 - Charge at a constant current until the battery reaches absorption voltage.	1	Recommended Charge Current	0.1C20 - 0.2C20			
		Maximum Charge Current	0.25C20			
		SYSTEM VOLTAGE	12V	24V	36V	48V
Step 2 - Hold absorption voltage until charge reduces to transition current.	2	Absorption Voltage	14.4V - 14.7V	28.8V - 29.4V	43.2V - 44.1V	57.6V - 58.8V
		Transition Current	≤0.02C20			
Step 3 - Hold float voltage until battery is needed or 8 hours, whichever occurs first.	3	Float Voltage	13.8V	27.6V	41.4V	55.2V
		Stop	Maximum Float Time 8 hours			

CC-CV-CC Charge Profile - 3 Step

2-STEP CHARGE DESCRIPTION	STEPS	DESCRIPTION	CHARGE PARAMETERS			
Step 1 - Charge at a constant current until the battery reaches absorption voltage.	1	Recommended Charge Current	0.1C20 - 0.2C20			
		Maximum Charge Current	0.25C20			
		SYSTEM VOLTAGE	12V	24V	36V	48V
Step 2 - Hold absorption voltage until charge reduces to finish current.	2	Absorption Voltage	14.4V - 14.7V	28.8V - 29.4V	43.2V - 44.1V	57.6V - 58.8V
		Finish Current	≤0.02C20			
Step 3 - Hold finish current until termination criteria is met.	Stop	Termination Criteria	dv/dt = 2.5mV/cell/hr. or 110-115% recharge			

To maximize the life of your battery, the charger should have temperature compensation. For temperatures above 77°F (25°C) subtract: 3mV/cell/1°F (5mV/cell/1°C) and for temperatures below 77°F (25°C) add: 3mV/cell/1°F (5mV/cell/1°C).

For more information please contact Relion technical support.

