



**PROGRAMMING
GUIDE**

SOL-ARK + ARK BATTERY PROGRAMMING GUIDE

(Non-closed loop version)

This guide is designed to simplify the programming process of ARK Battery & Sol-Ark inverters. Failure to comply with the manual may result in damage to your system.

Be sure to follow NEC guidelines for proper wiring and cabling methods.

MINIMUM NUMBER OF BATTERIES REQUIRED PER INVERTER (SINGLE INVERTER SYSTEMS)

	ARK 512100	ARK 512200	ARK 256200
Sol-Ark 5K	2	2	Not Supported
Sol-Ark 8K	2	2	Not Supported
Sol-Ark 12K	2	2	Not Supported
Sol-Ark 15K	3	2	Not Supported

MINIMUM NUMBER OF BATTERIES REQUIRED FOR DOUBLE STACK INVERTER SYSTEMS

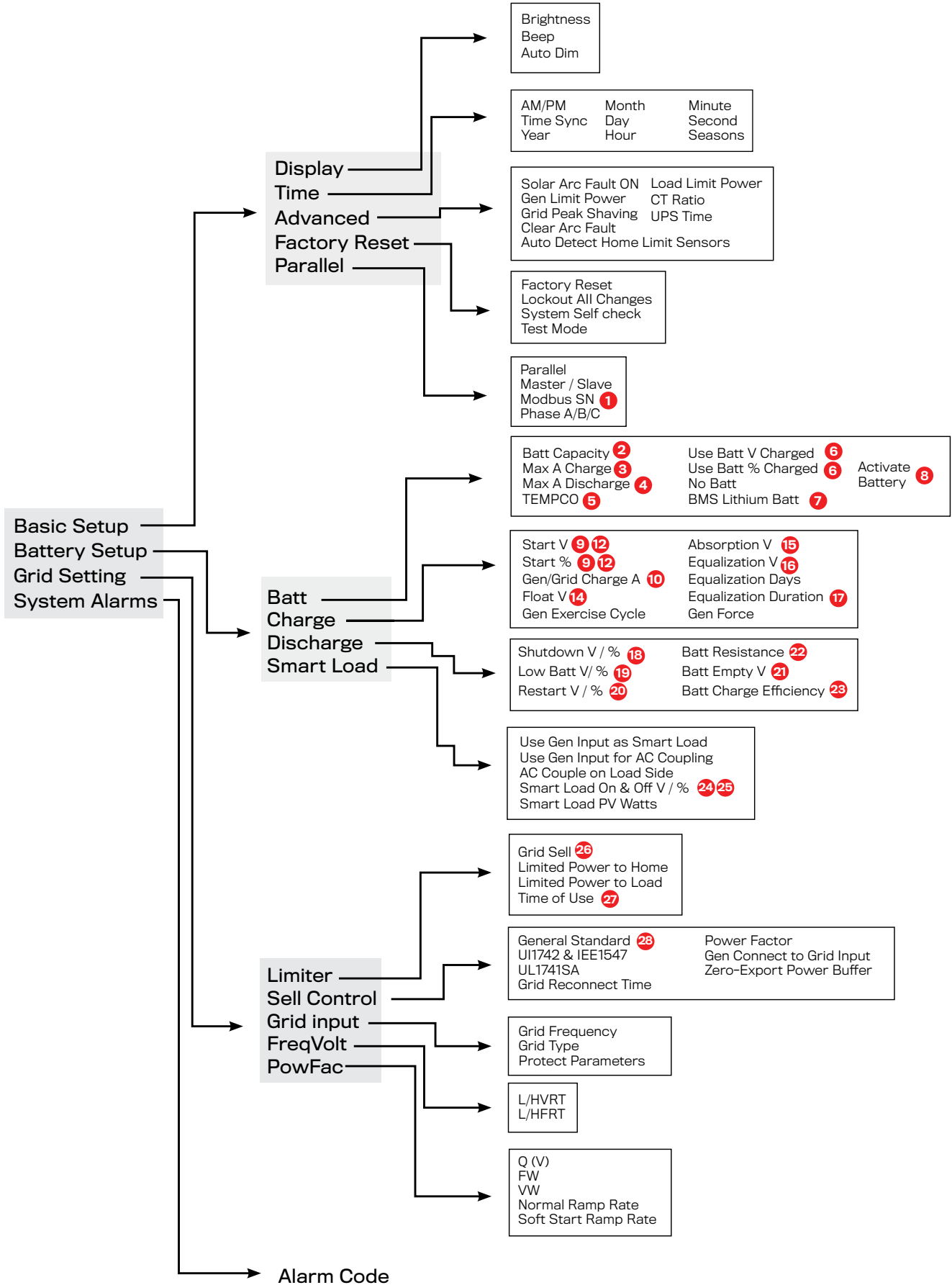
	ARK 512100	ARK 512200	ARK 256200
2x Sol-Ark 12K	4	3	Not Supported
2x Sol-Ark 15K	6	4	Not Supported

Note: When powering up the inverter, set the breaker of each ARK Battery in the bank to the 'on' position before turning on the battery breaker on the inverter.

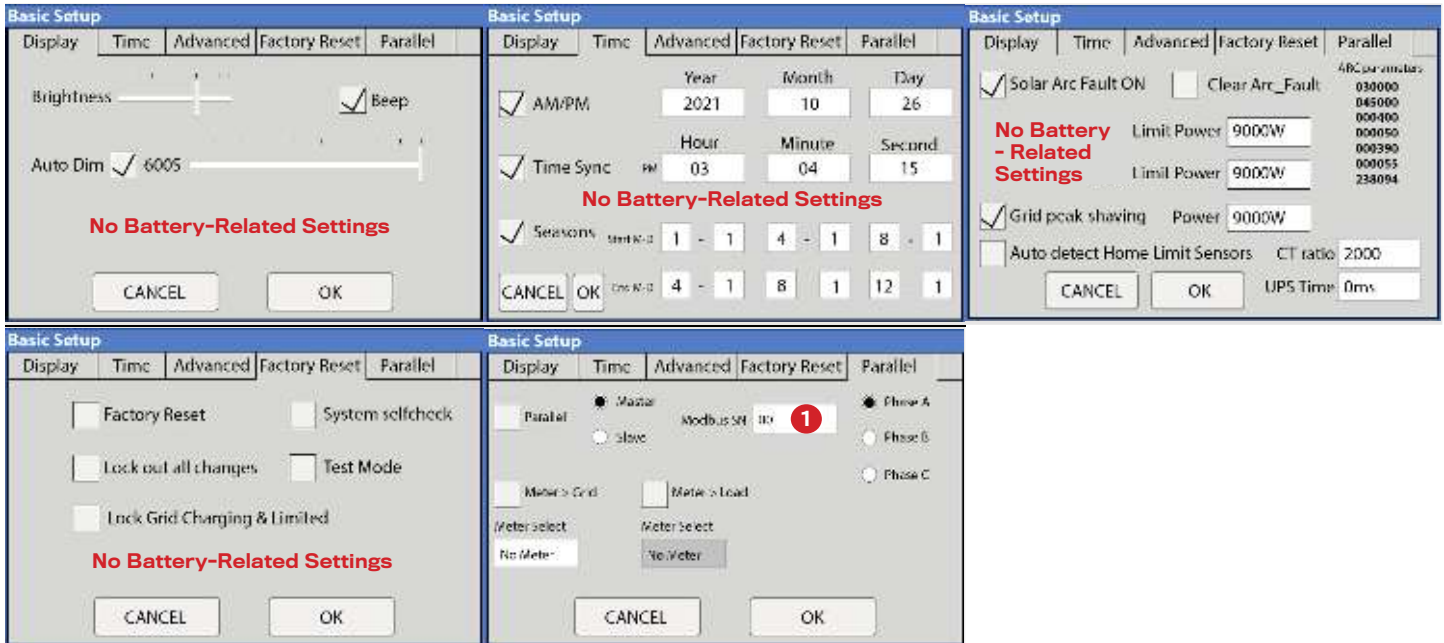
SETUP KEY

1	Modbus S/N	01 (default)
2	Batt Capacity	Number of batteries in the bank x capacity (AH) per battery
3	Max A Charge	Can be maxed out when following the proper battery to inverter ratios on page 2
4	Max A Discharge	Can be maxed out when following the proper battery to inverter ratios on page 2
5	Tempco	OmV/C/Cel
6	Battery V or Battery %	Choose if the inverter displays Battery Volts or Battery %.
7	BMS Lithium Batt	Leave unchecked
8	Activate Battery	Leave unchecked
9	Start V & Start % (Gen)	Max recommended discharge = 20% (or higher). See the Volts vs SOC chart on page 8
10	Charging Amps Grid/Gen	Respect your generator's limits!
11	Gen Charge	Check this box to charge with generator
12	Start V & Start % (Grid)	Max recommended discharge = 20% (or higher). See the Volts vs SOC chart on page 8
13	Grid Charge	Check this box to charge with grid power
14	Float V	54.4
15	Absorption V	57.2
16	Equalization V	57.2
17	Hours	0.0
18	Shutdown V/%	Recommended Minimum 48V or 5%
19	Low Battery V/%	Recommended Minimum 50V or 20%
20	Restart V/%	Recommended Minimum 50.6V or 25%
21	Batt Empty V	47V
22	Batt Resistance	25 divided by number of batteries in the bank
23	Batt Charge Efficiency	99
24	Smart Load OFF Batt	Max Recommend Depth of Discharge is 20%
25	Smart Load ON Batt	50-90%
26	Grid Sell	Can be maxed out when following the proper battery to inverter ratios on page 2
27	Time of use settings	Can be maxed out when following the proper battery to inverter ratios on page 2
28	Grid code standards	Follow applicable local and national codes!

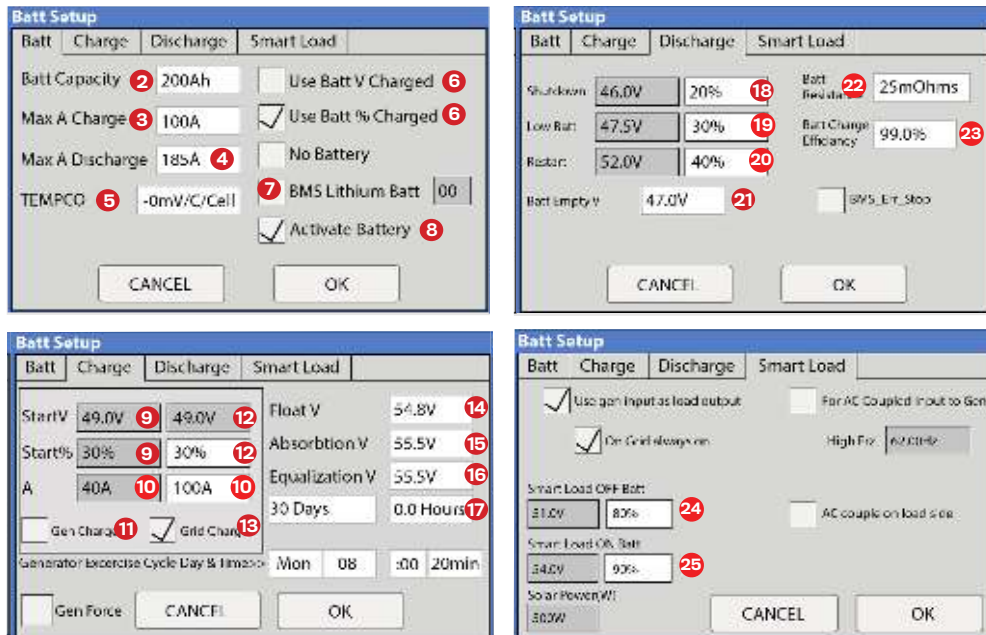
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BASIC SETUP MENU



BATTERY SETUP



GRID PARAMETER MENU

Grid Param

Limiters Sell Control Grid Input Freq/Volt PowFac

Grid Sell 06:00 26

Time	Power/W	Rel	Charge	Sel
01:00AM	2000	50%		
05:00AM	2000	50%		
09:00AM	2000	100%		
01:00PM	2000	100%		
05:00PM	2000	50%		
09:00PM	2000	50%		

Time of Use Set.p

CANCEL OK

Grid Param

Limiters Sell Control Grid Input Freq/Volt PowFac

L/HVRT

V	t	L/HVRT	t
V2: 252.0V	0.16S	HF2: 20.0Hz	0.10s
V1: 231.0V	12S	HF1: 30.5Hz	290S
V1: 184.0V	20S	LF1: 39.5Hz	295S
V2: 147.0V	10S	LF2: 57.0Hz	0.16S
V3: 105.0V	0.16S		

No Battery-Related Settings

CANCEL OK

Grid Param

Limiters Sell Control Grid Input Freq/Volt PowFac Relay

Grid Frequency 50Hz

60Hz

Grid Type

120/240V Split Phase

120/208V 3 Phase

Protect Param

Grid Vol High 270V

Grid Vol Low 185V

Grid Max High 65.0Hz

Grid Max Low 55.0Hz

No Battery-Related Settings

CANCEL OK

Grid Param

Limiters Sell Control Grid Input Freq/Volt PowFac

General Standard

UL1741 & IEEE 1547

UL1741SA 28

Grid Response Time 50s

Power Factor 1.000

GEN connect to Grid Input

Zero Export Power 20W

Batt First Load First

CANCEL OK

Grid Param

Limiters Sell Control Grid Input Freq/Volt PowFac

Q/V F/W V/W

No Battery-Related Settings

V2: 225.6V

V3: 254.4V

V4: 264.0V

Response Time 10s

Q3: 0.00

Q4: 0.44

F1: 62.00Hz

RT: 5.0s

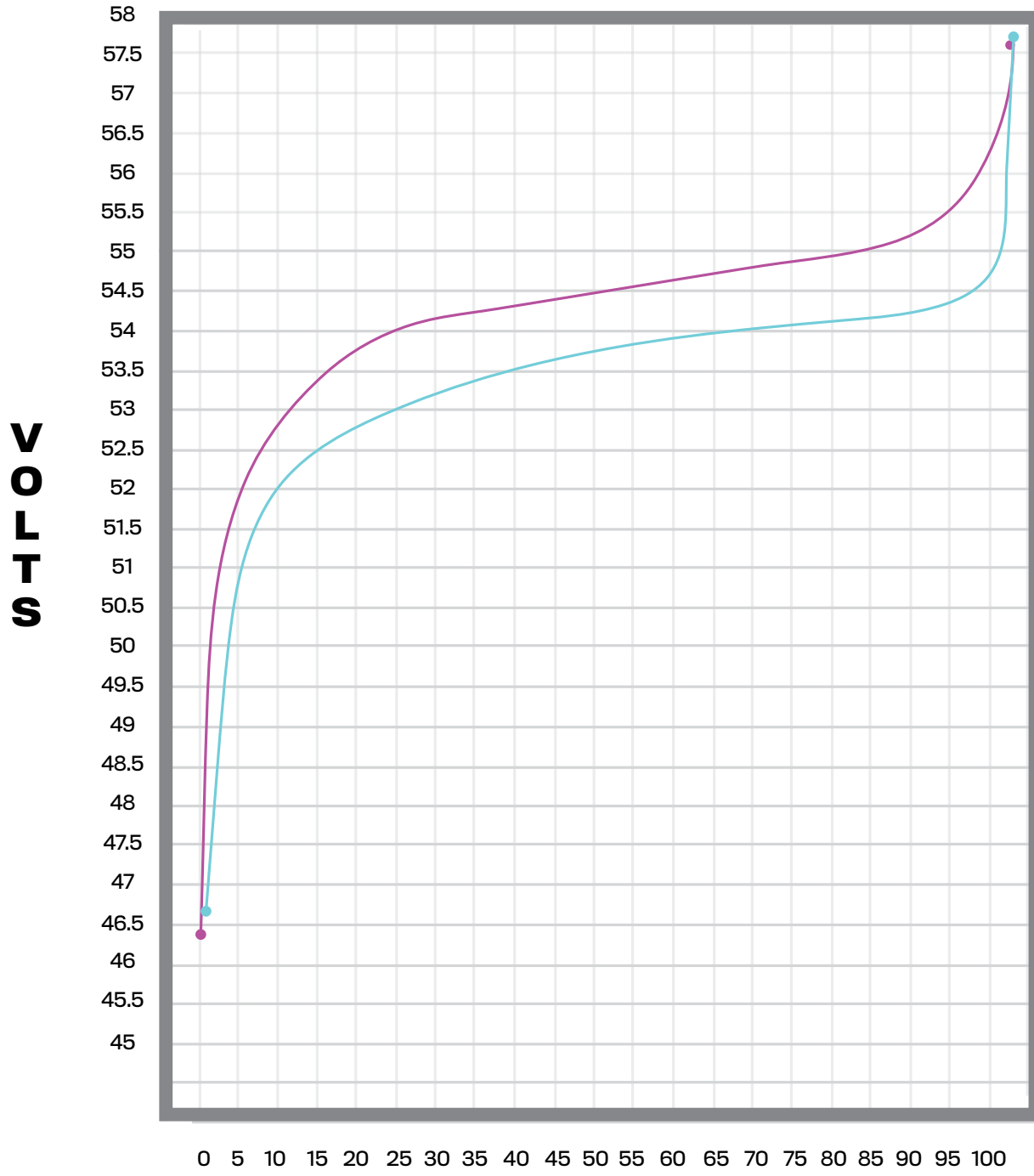
Normal Ramp rate 10.0%/s

Soft Start Ramp rate 10.0%/s

CANCEL OK

CHARGING VOLTS VS SOC %

Note that some variation from these charts is acceptable. Age of batteries, temperature, cycle counts, and other factors may cause these variations.

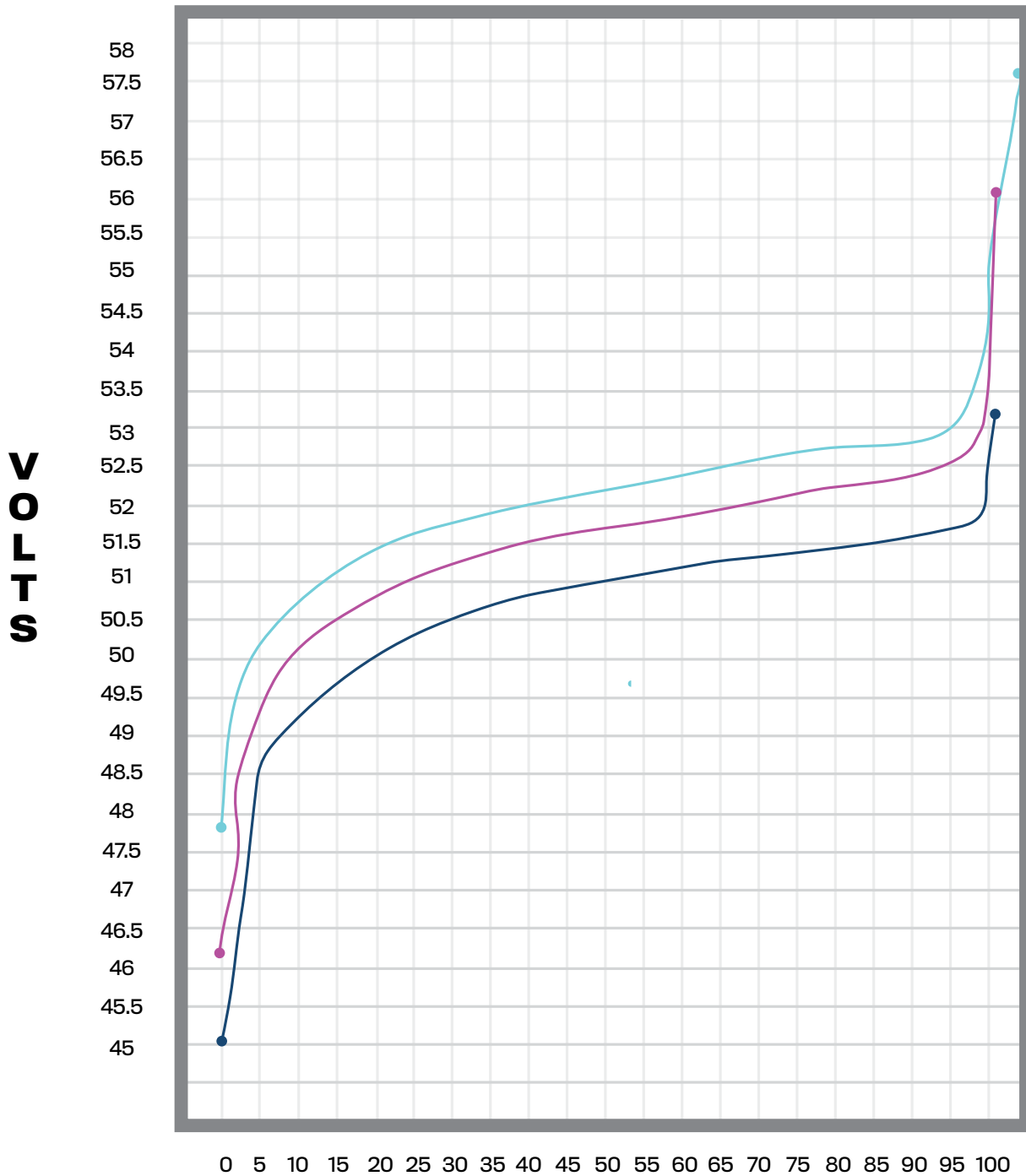


BATTERY STATE OF CHARGE (SOC %)

—●— 0.15 C —●— 0.5 C

DISCHARGE VOLTS VS. SOC %

Note that some variation from these charts is acceptable. Age of batteries, temperature, cycle counts, and other factors may cause these variations.



BATTERY STATE OF CHARGE (SOC %)

●— 0.15 C ●— 0.5 C ●— 1C



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