

The Charging Algorithms of the Program BART02A1 New PAC 12V / 120A

Status LED:

Whole main charging	=	orange
Ready/Trickle charge	=	green
Error	=	flashing red
No Algorithm	=	red
Code switch test	=	flashing green
No battery detection		

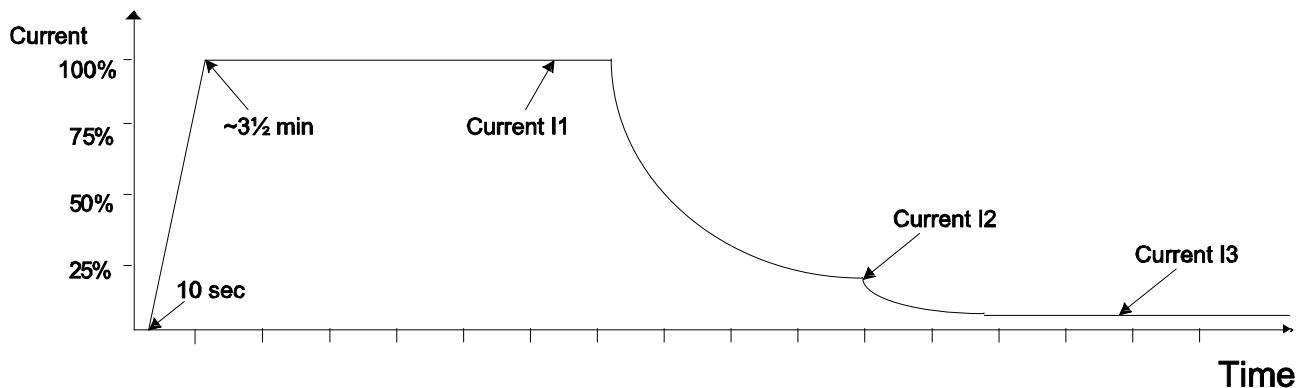
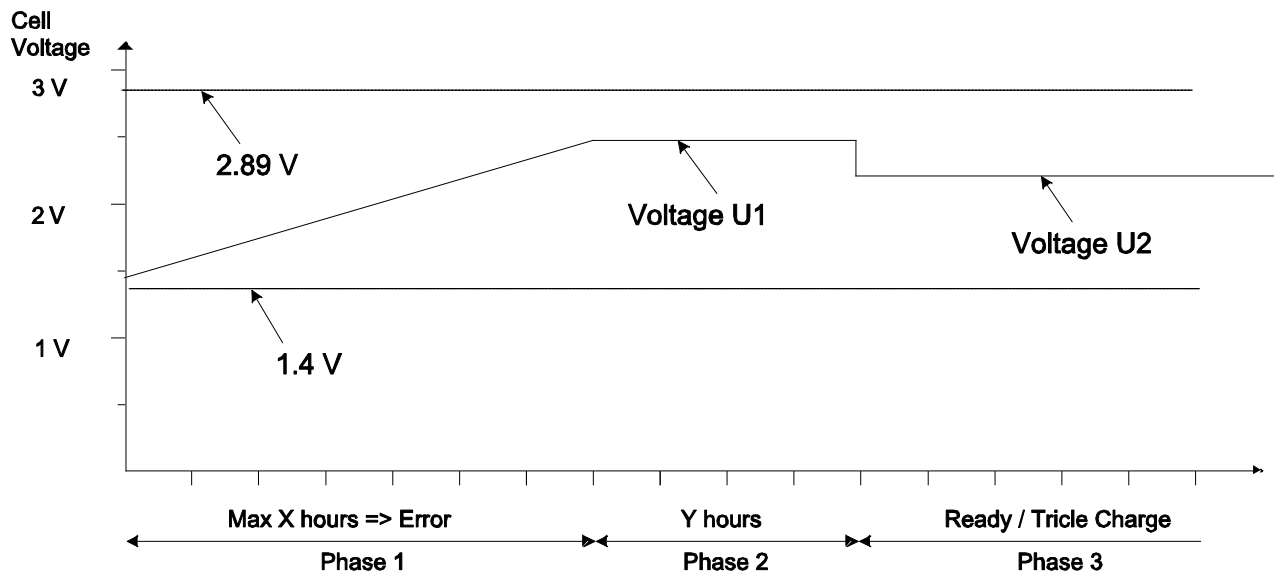
Charging algorithms for 12V, 120A 1600W:

Switch position	Battery Voltage	Battery type	Charging Current	Battery capacity	Charging curve
0	12 V	Unsealed	80A	200 – 250 Ah	A
1	12 V	Unsealed	100A	250 - 360 Ah	A
2	12 V	Unsealed	100A	360 – 500 Ah	A
3	12 V	Unsealed	100A	500 – 700 Ah	A
4	12 V	Unsealed	100A	700 - 1000 Ah	A
5	12 V	Sealed	80A	200 – 250 Ah	B
6	12 V	Sealed	100A	250 - 360 Ah	B
7	12 V	Sealed	100A	360 – 500 Ah	B
8	12 V	Sealed	100A	500 – 700 Ah	B
9	12 V	Sealed	100A	700 - 1000 Ah	B
10 = A	12 V	Sonnenschein	80A	200 – 250 Ah	C
11 = B	12 V	Sonnenschein	100A	250 - 360 Ah	C
12 = C	12 V	Sonnenschein	100A	360 – 500 Ah	C
13 = D	12 V	Sonnenschein	100A	500 – 700 Ah	C
14 = E	12 V	Sonnenschein	100A	700 - 1000 Ah	C
15 = F				No algorithm(Service)	

Din forhandler



Unsealed Battery



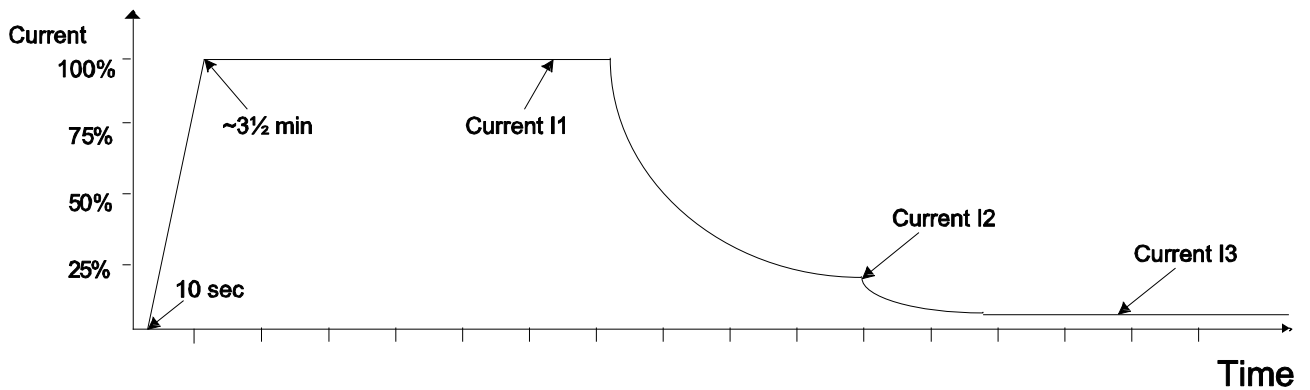
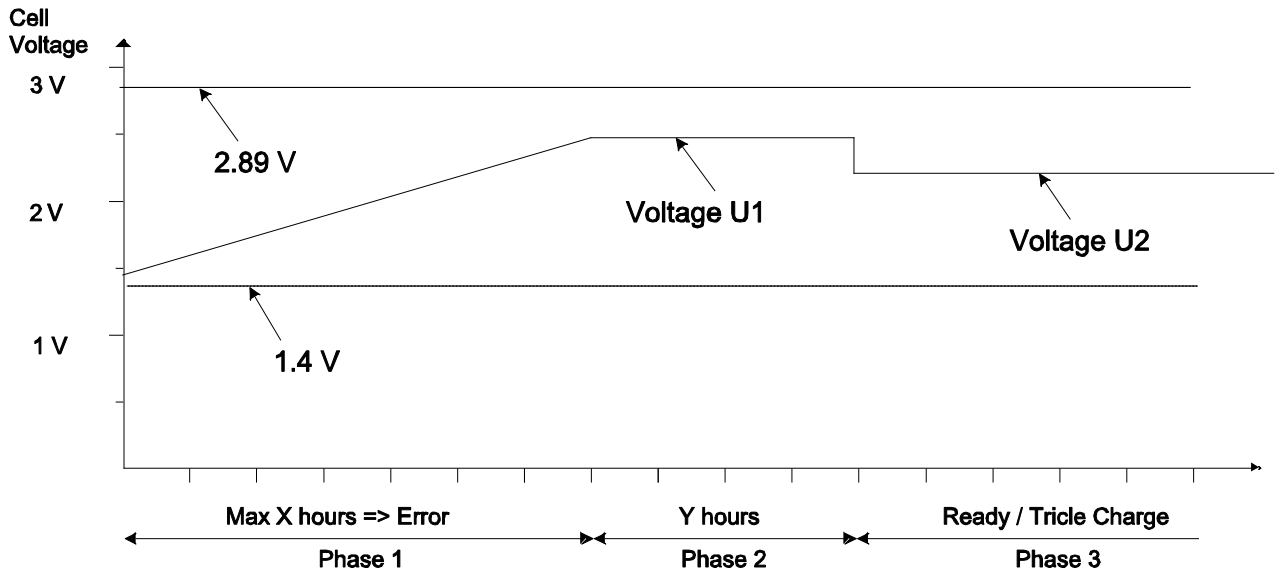
Charging Curve A for unsealed batteries:

Switch position	Battery capacity	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1	Current I2	Current I3	Max. Time X	Max. Time Y
0	200 – 250 Ah	2.4	2.25	80A	6,5 A	80A	5	6
1	250 - 360 Ah	2.4	2.25	100A	9,0 A	100A	6	7
2	360 – 500 Ah	2.4	2.25	100A	13,4 A	100A	8	9
3	500 – 700 Ah	2.4	2.25	100A	17,9 A	100A	11	2
4	700 - 1000 Ah	2.4	2.25	100A	22,9 A	100A	11	12

Din forhandler



Sealed Battery



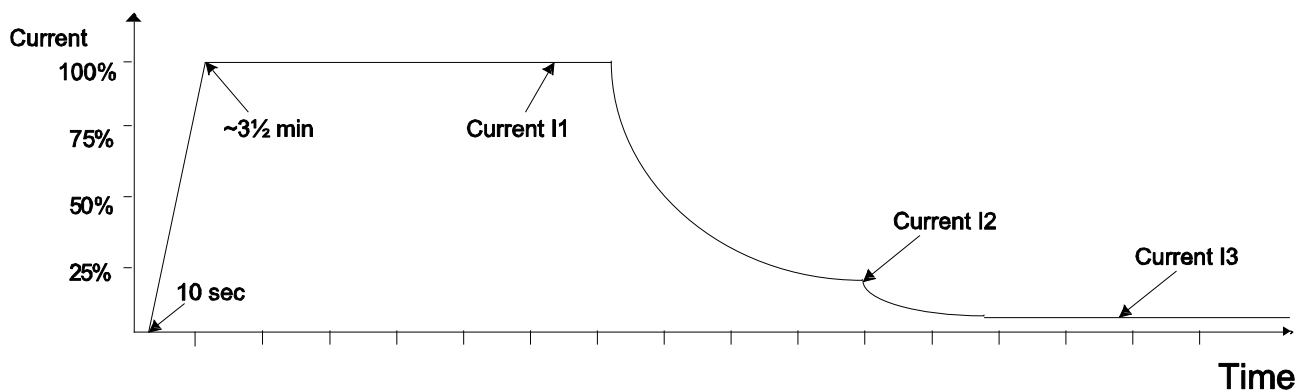
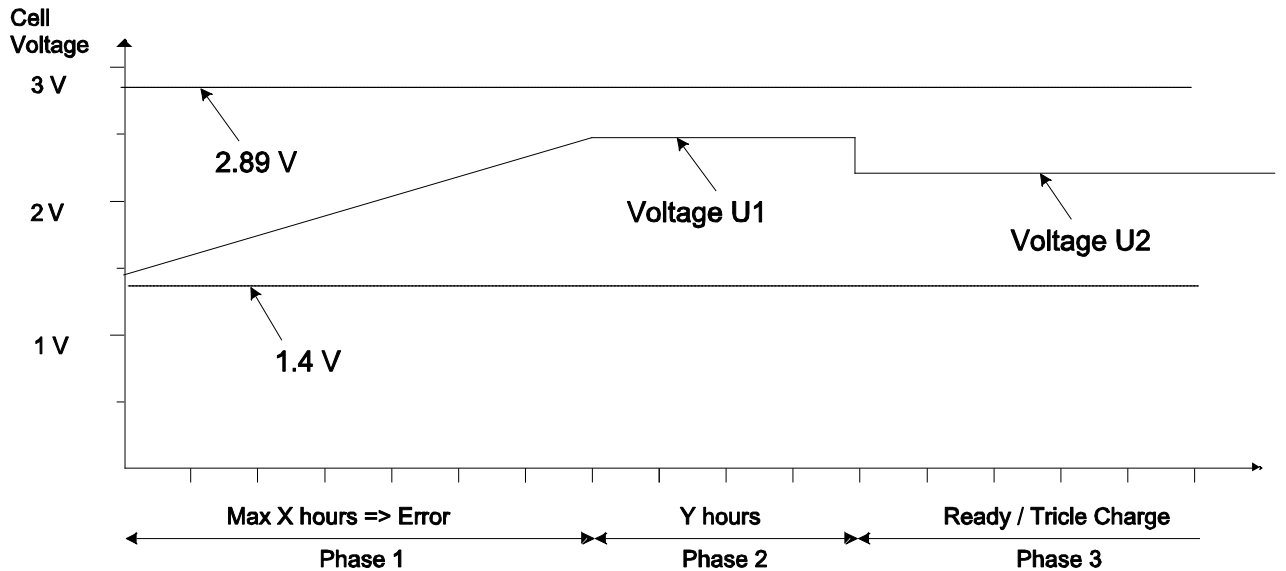
Charging Curve B for Sealed battery:

Switch position	Battery capacity	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1	Current I2	Current I3	Max. Time X	Max. Time Y
5	200 – 250 Ah	2.35	2.27	80A	3,5 A	80A	5	6
6	250 - 360 Ah	2.35	2.27	100A	5,0 A	100A	6	7
7	360 – 500 Ah	2.35	2.27	100A	7,0 A	100A	8	9
8	500 – 700 Ah	2.35	2.27	100A	9,5 A	100A	11	2
9	700 - 1000 Ah	2.35	2.27	100A	12,0 A	100A	11	12

Din forhandler



Sonnenschein Battery



Charging Curve C for Sonnenschein battery:

Switch position	Battery capacity	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1	Current I2	Current I3	Max. Time X	Max. Time Y
A = 10	200 – 250 Ah	2.4	2.3	80A	3,5 A	80A	5	6
B = 11	250 - 360 Ah	2.4	2.3	100A	5,0 A	100A	6	7
C = 12	360 – 500 Ah	2.4	2.3	100A	7,0 A	100A	8	9
D = 13	500 – 700 Ah	2.4	2.3	100A	9,5 A	100A	11	2
E = 14	700 - 1000 Ah	2.4	2.3	100A	12,0 A	100A	11	12

Other rules:

- Charging voltage is compensated depending on battery's temperature.
 $U = V - 0.004 C * (T - 25)$
Where:
U = Output voltage
V = Voltage on the table
C = Cell number
T = Battery's temperature in Celsius
- If battery temperature is 45 C output current decreases to 50% of nominal value.
When decreased to 40 C output current is 100%.
- If battery temperature is 50 C charging momentarily turns off. When decreased to 45 C the charger starts with 50% output current.

Din forhandler



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