

# The Charging Algorithms of the Program BJ115BA3

## 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 24V, 60A PAC 1600N:

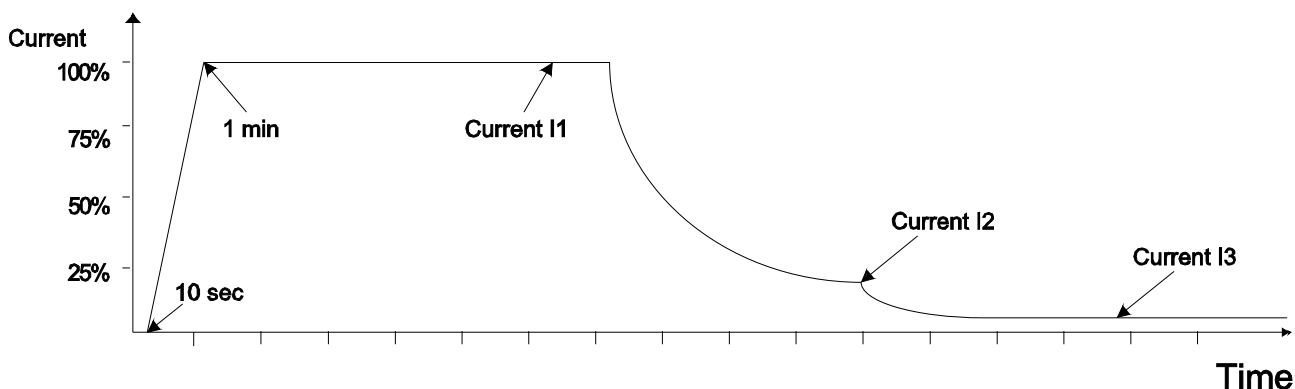
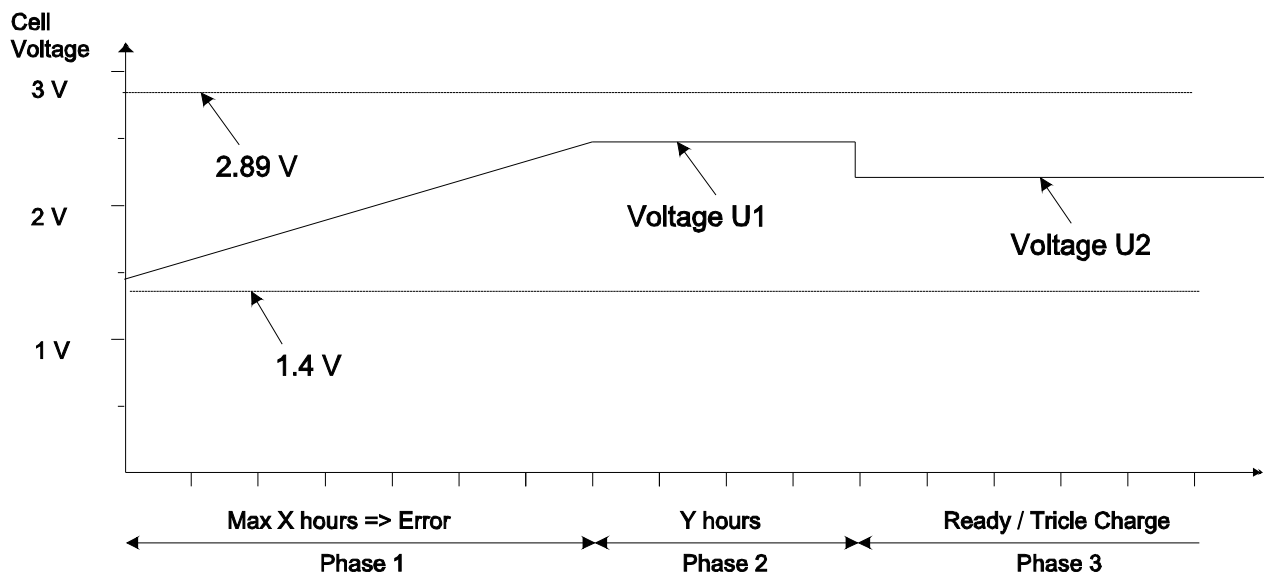
Switch position	Battery Voltage	Battery type	Charging Current	Battery capacity	Charging curve
0	24 V	Unsealed	42 A	125-167 Ah	A
1	24 V	Unsealed	50 A	167-233 Ah	A
2	24 V	Unsealed	50 A	233-317 Ah	A
3	24 V	Unsealed	50 A	317-417 Ah	A
4	24 V	Unsealed	50 A	417-500 Ah	A
5	24 V	Sealed	42 A	125-167 Ah	B
6	24 V	Sealed	50 A	167-233 Ah	B
7	24 V	Sealed	50 A	233-317 Ah	B
8	24 V	Sealed	50 A	317-417 Ah	B
9	24 V	Sealed	50 A	417-500 Ah	B
10 = A	24 V	Sonnenschein	42 A	125-167 Ah	C
11 = B	24 V	Sonnenschein	50 A	167-233 Ah	C
12 = C	24 V	Sonnenschein	50 A	233-317 Ah	C
13 = D	24 V	Sonnenschein	50 A	317-417 Ah	C
14 = E	24 V	Sonnenschein	50 A	417-500 Ah	C
15 = F				No algorithm(Service)	

Din forhandler





# Unsealed Battery



## Charging Curve A for unsealed batteries:

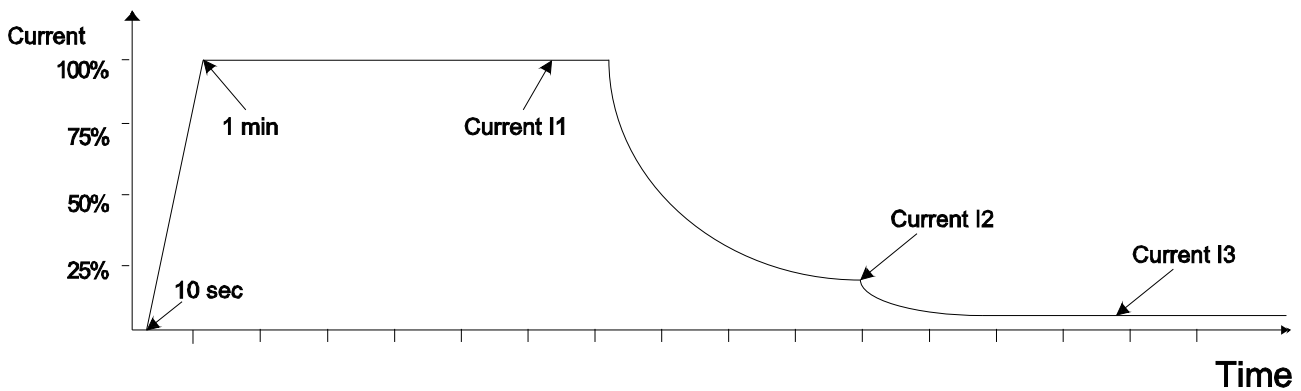
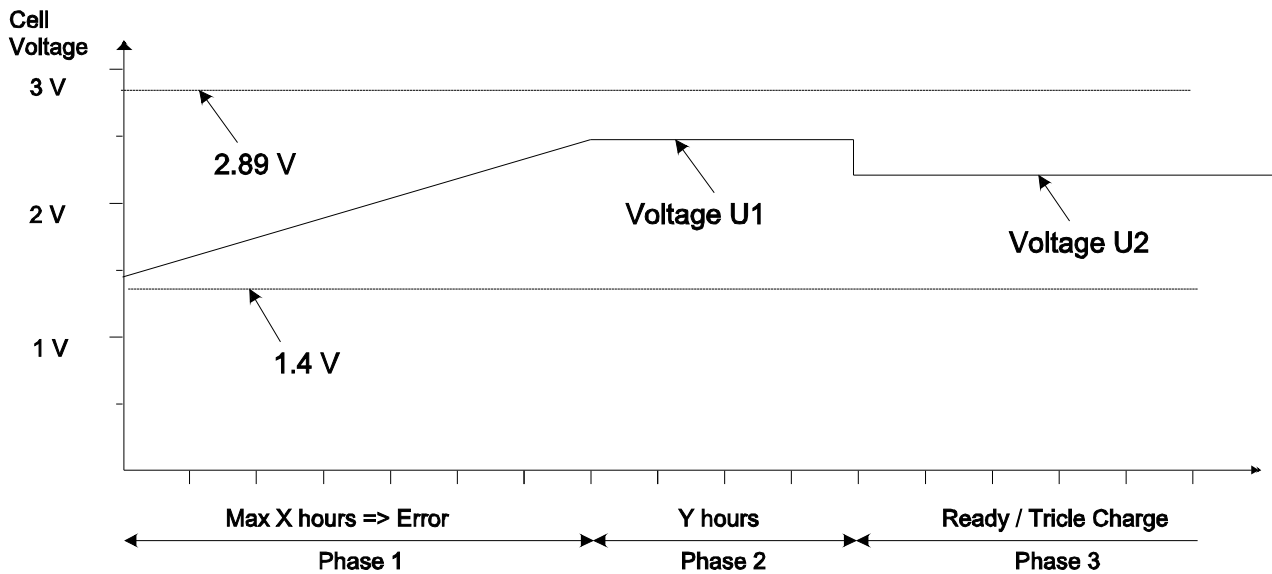
Switch position	Battery capacity	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1	Current I2	Current I3	Max. Time X	Max. Time Y
0	150-200 Ah	2.4	2.25	42 A	3,0 A	42 A	5	6
1	200-280 Ah	2.4	2.25	50 A	4,0 A	50 A	6	7
2	280-380 Ah	2.4	2.25	50 A	5,5 A	50 A	8	9
3	380-500 Ah	2.4	2.25	50 A	7,3 A	50 A	11	2
4	500-600 Ah	2.4	2.25	50 A	9,2 A	50 A	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	150 - 200 Ah	2.35	2.27	42 A	1,5 A	42 A	5	6
6	200-280 Ah	2.35	2.27	50 A	2,0 A	50 A	6	7
7	280-380 Ah	2.35	2.27	50 A	2,8 A	50 A	8	9
8	380-500 Ah	2.35	2.27	50 A	3,7 A	50 A	11	2
9	500-600 Ah	2.35	2.27	50 A	4,7 A	50 A	11	12

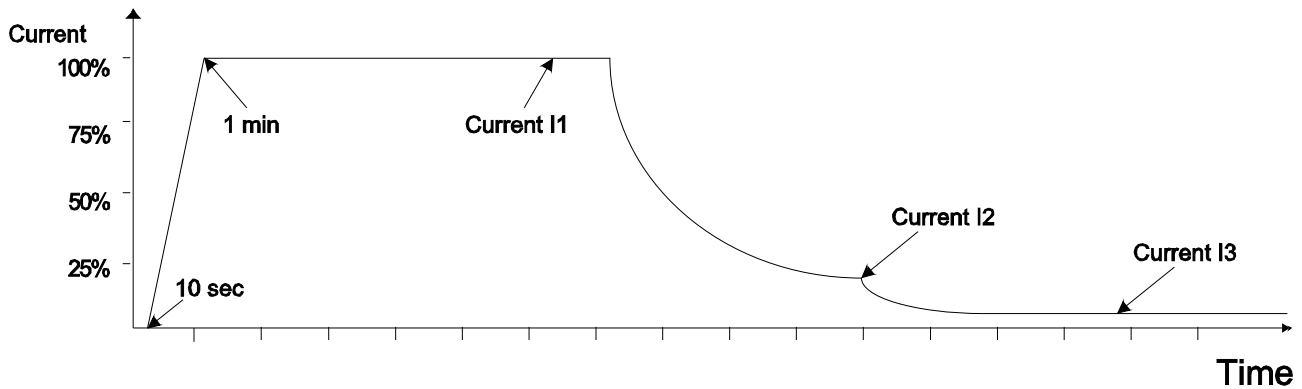
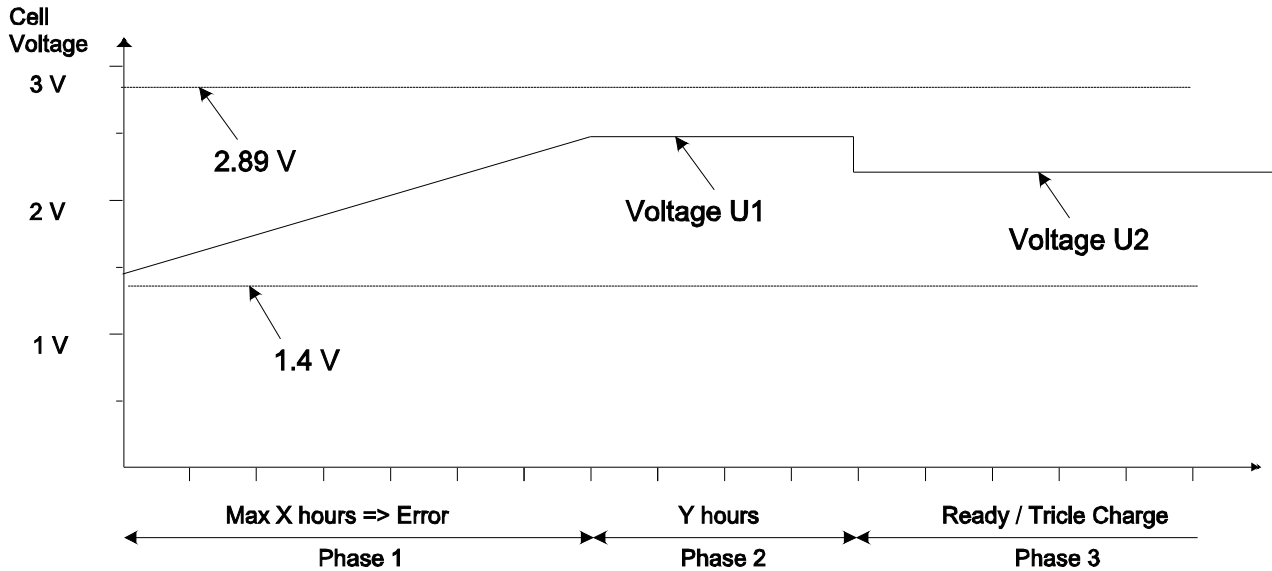
Din forhandler



**GACELL**  
The right battery



# 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	150-200 Ah	2.4	2.3	42 A	1,5 A	42 A	5	6
B = 11	200-280 Ah	2.4	2.3	50 A	2,0 A	50 A	6	7
C = 12	280-380 Ah	2.4	2.3	50 A	2,8 A	50 A	8	9
D = 13	380-500 Ah	2.4	2.3	50 A	3,7 A	50 A	11	2
E = 14	500-600 Ah	2.4	2.3	50 A	4,7 A	50 A	11	12

Din forhandler



**GACELL**  
The right battery

## 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 momentary turns off. When decreased to 45 C the charger starts with 50% output current.

**Din forhandler**



**GACELL A/S - Sletten 17 - DK 7500 Holstebro - 961 02 961**