

The Charging Algorithms of the Program J414A

Status LED:

Whole main charging	=	orange
Ready/Trickle charge	=	green
Error	=	flashing red
Battery not connected	=	red
No Algorithm	=	red
Code switch test	=	flashing green

Charging algorithms for 72V, 10A PAC 800S:

Switch position	Battery Voltage /V	Battery type	Charging Current /A	Battery capacity / Ah	Charging curve
0	72	Unsealed	8,3	19 – 25	A
1	72	Unsealed	10	25 - 35	A
2	72	Unsealed	10	35 - 48	A
3	72	Unsealed	10	48 - 63	A
4	72	Unsealed	10	63 - 75	A
5	72	Sealed	8,3	19 – 25	B
6	72	Sealed	10	25 - 35	B
7	72	Sealed	10	35 - 48	B
8	72	Sealed	10	48 - 63	B
9	72	Sealed	10	63 - 75	B
10 = A	72	Sonnenschein	8,3	19 – 25	C
11 = B	72	Sonnenschein	10	25 - 35	C
12 = C	72	Sonnenschein	10	35 - 48	C
13 = D	72	Sonnenschein	10	48 - 63	C
14 = E	72	Sonnenschein	10	63 - 75	C
15 = F				No algorithm(Service)	

Din forhandler



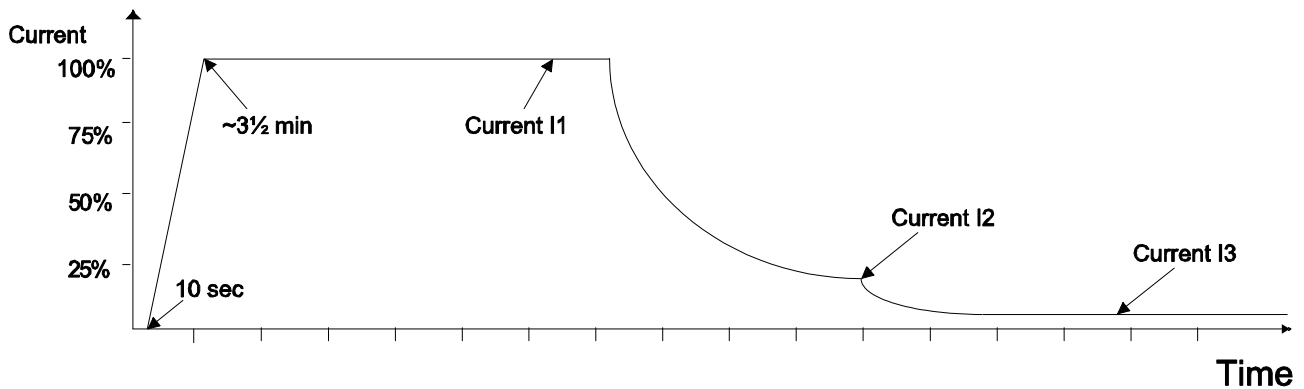
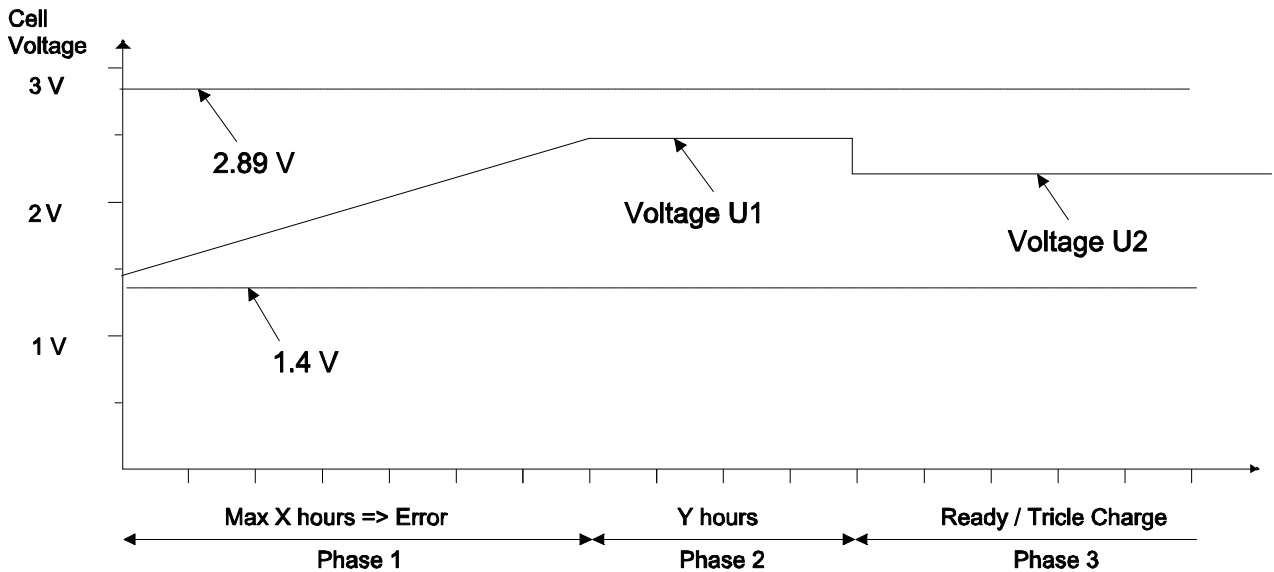
POWERFINN
Perämiehenkatu 6
FIN- 24100 SALO

GACELL[®]
The right battery

Tel +358 2 777 290
Fax +358 2 777 2918
(1)



Unsealed Battery



Charging Curve A for unsealed batteries:

Switch position	Battery capacity / Ah	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1 /A	Current I2 /A	Current I3 /A	Max. Time X /h	Max. Time Y /h
0	19 - 25	2.4	2.25	8,3	0,45	8,3	5	6
1	25 - 35	2.4	2.25	10	0,6	10	6	7
2	35 - 48	2.4	2.25	10	0,83	10	8	9
3	48 - 63	2.4	2.25	10	1,1	10	11	2
4	63 - 75	2.4	2.25	10	1,38	10	11	12

Din forhandler



GACELL[®]

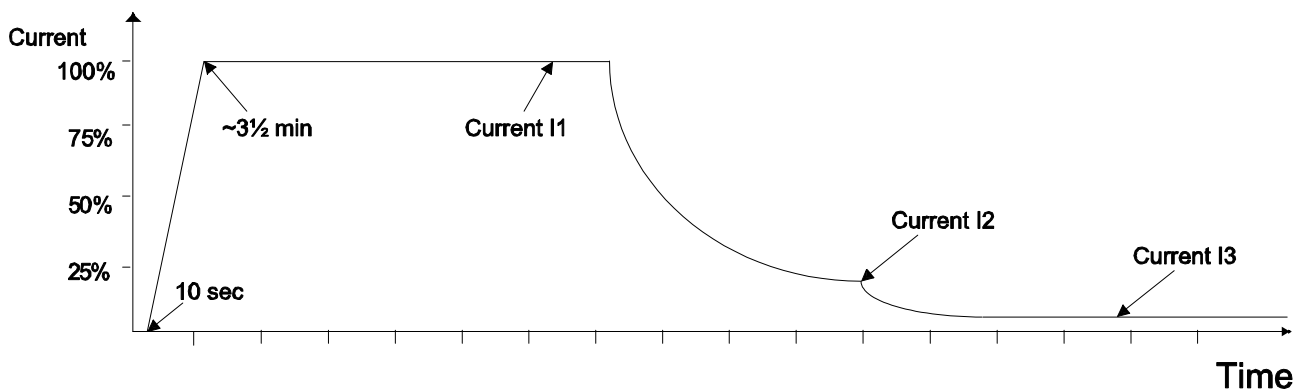
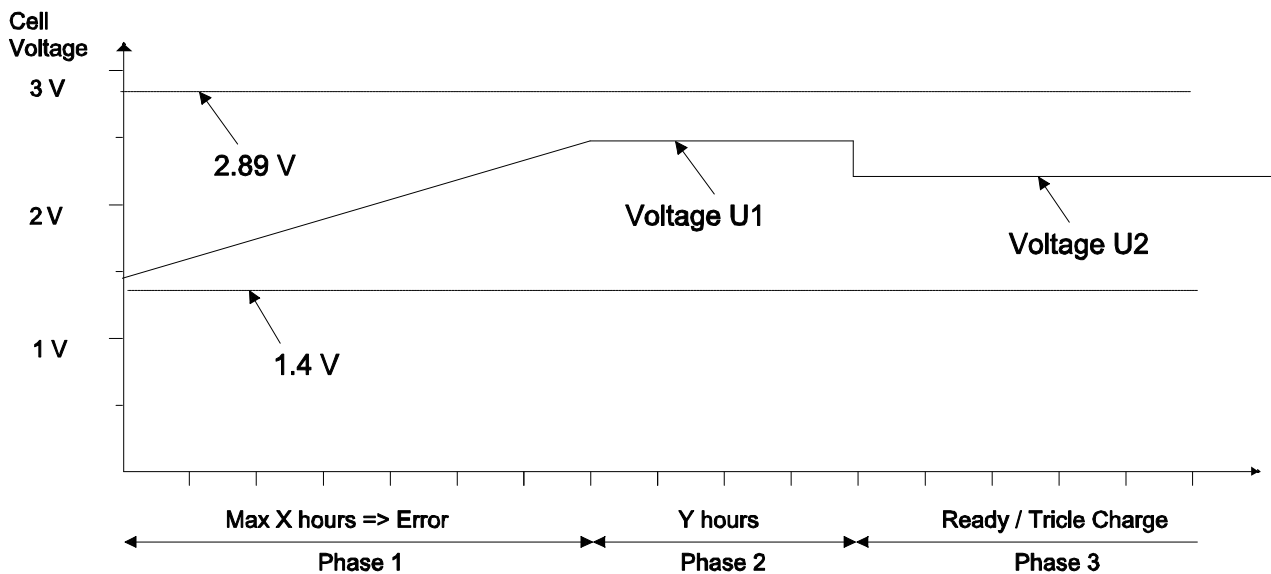
The right battery

POWERFINN
Perämiehenkatu 6
FIN- 24100 SALO

Tel +358 2 777 290
Fax +358 2 777 2918
(2)



Sealed Battery



Charging Curve B for Sealed battery:

Switch position	Battery capacity / Ah	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1 /A	Current I2 /A	Current I3 /A	Max. Time X /h	Max. Time Y /h
5	19 – 25	2.35	2.27	8,3	0,23	8,3	5	6
6	25 - 35	2.35	2.27	10	0,3	10	6	7
7	35 - 48	2.35	2.27	10	0,43	10	8	9
8	48 - 63	2.35	2.27	10	0,55	10	11	2
9	63 - 75	2.35	2.27	10	0,7	10	11	12

Din forhandler



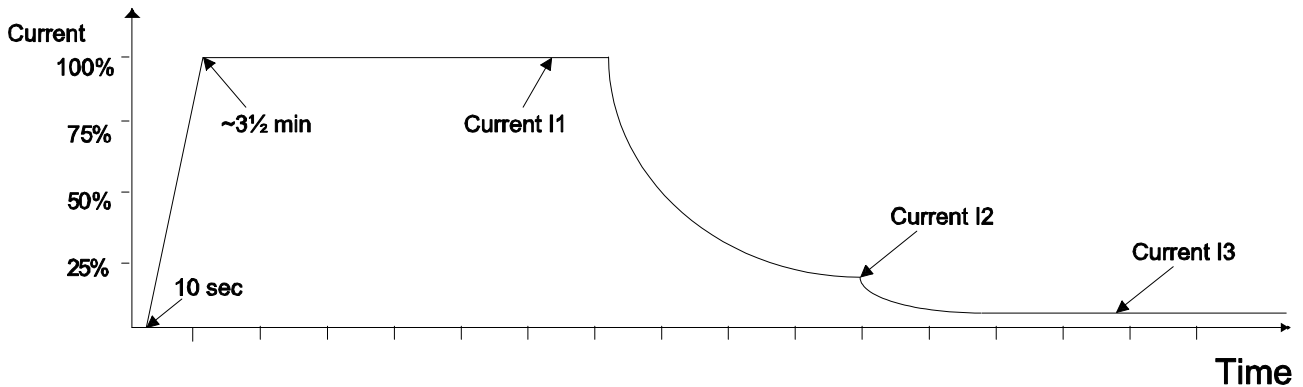
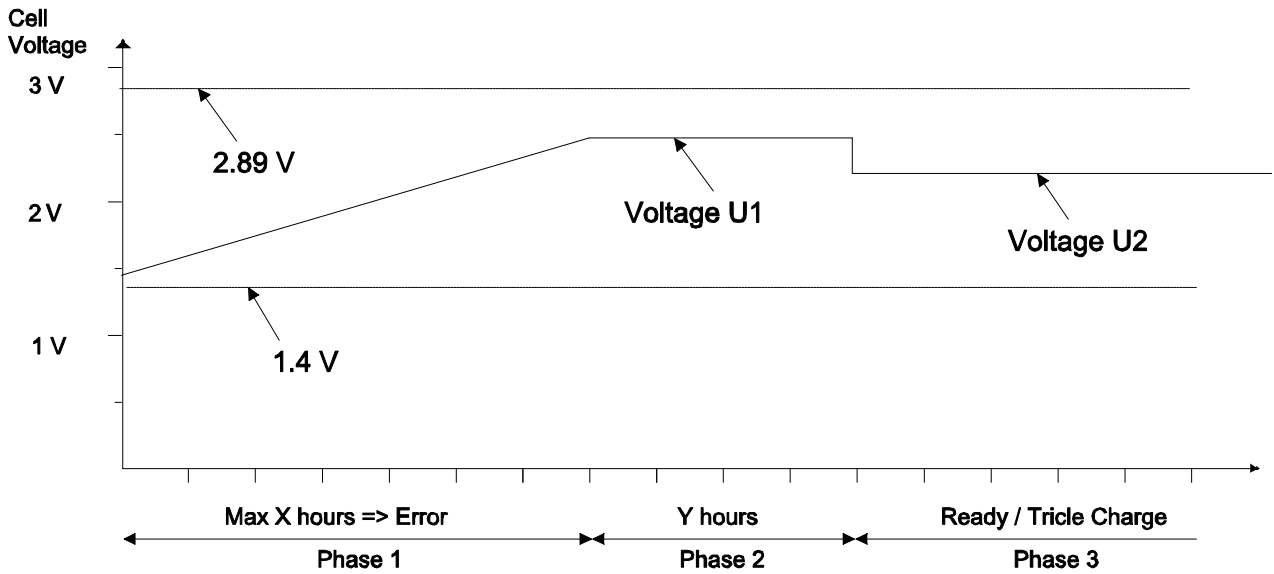
GACELL
The right battery

POWERFINN
Perämiehenkatu 6
FIN- 24100 SALO

Tel +358 2 777 290
Fax +358 2 777 2918
(3)



Sonnenschein Battery



Charging Curve C for Sonnenschein battery:

Switch position	Battery capacity / Ah	Voltage U1 V/Cell	Voltage U2 V/Cell	Current I1 /A	Current I2 /A	Current I3 /A	Max. Time X /h	Max. Time Y /h
A = 10	19 - 25	2.4	2.3	8,3	0,23	8,3	5	6
B = 11	25 - 35	2.4	2.3	10	0,3	10	6	7
C = 12	35 - 48	2.4	2.3	10	0,43	10	8	9
D = 13	48 - 63	2.4	2.3	10	0,55	10	11	2
E = 14	63 - 75	2.4	2.3	10	0,7	10	11	12

Din forhandler

POWERFINN
Perämiehenkatu 6
FIN- 24100 SALO



Tel +358 2 777 290
Fax +358 2 777 2918
(4)

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



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